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DRAFT ENVIRONMENTAL IMPACT REPORT

SAN FRANCISCO BICYCLE PLAN

San Francisco Planning Department

City and County of San Francisco

Case No. 2007.0347E

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Draft EIR Publication Date: November 26, 2008

Draft EIR Public Hearing Date: January 8, 2009

Draft EIR Public Comment Period: November 26, 2008 - January 13, 2009

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1650 Mission Street, Suite 400, San Francisco, CA 94103

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DATE: November 26, 2008
TO: Distribution List for the San Francisco Bike Plan Project
FROM: Bill Wycko, Environmental Review Officer
SUBJECT: Request for the San Francisco Bike Plan Project
(Case No. 2007.0347E)

This is the Draft of the Environmental Impact Report (EIR) for the San Francisco Bike Plan Project Project. A public hearing will be held on the adequacy and accuracy of this document. After the public hearing, we will prepare and publish a document titled "Summary of Comments and Responses" that will contain a summary of all relevant comments on this Draft EIR and our responses to those comments. It may also specify changes to this Draft EIR. Those who testify at the hearing on the Draft EIR will automatically receive a copy of the Comments and Responses document, along with notice of the date reserved for certification; others may receive such copies and notice on request or by visiting our office. This Draft EIR together with the Summary of Comments and Responses document will be considered by the City Planning Commission in an advertised public meeting(s) and certified as a Final EIR if deemed adequate.

After certification, we will modify the Draft EIR as specified by the Comments and Responses document and print both documents in a single publication called the Final EIR. The Final EIR will add no new information to the combination of the two documents except to reproduce the certification resolution. It will simply provide the information in one, rather than two, documents. Therefore, if you receive a copy of the Comments and Responses document in addition to this copy of the Draft EIR, you will technically have a copy of the Final EIR.

We are aware that many people who receive the Draft EIR and Summary of Comments and Responses have no interest in receiving virtually the same information after the EIR has been certified. To avoid expending money and paper needlessly, we would like to send copies of the Final EIR to private individuals only if they request them. If you would like a copy of the Final EIR, therefore, please fill out and mail the postcard provided inside the back cover to the San Francisco Planning Department within two weeks after certification of the EIR. Any private party not requesting a Final EIR by that time will not be mailed a copy. Public agencies on the distribution list will automatically receive a copy of the Final EIR.

Thank you for your interest in this project.

TABLE OF CONTENTS

I. Glossary I-1

II. Executive Summary ES-1

A. Project Synopsis ES-1

B. Environmental Issues ES-4

C. Summary of Project Alternatives ES-74

D. Areas of Controversy and Issues to be Resolved ES-74

III. Introduction III-1

A. History of Project III-1

B. Project Summary III-3

C. Purpose of this EIR III-4

D. Type of EIR III-5

E. Environmental Review Actions and Public Responses III-6

F. To Learn More III-10

IV. Project Description IV-1

A. Project Objectives IV-1

B. Project Location IV-4

C. Project Characteristics IV-7

D. Intended Uses of the EIR IV-57

F. Plans and Policies IV-57

V. Environmental Setting and Impacts V.A.1

A. Transportation V.A-1

1. Overview and Organization V.A.1-1

2. Program-Level Review V.A.2-1

3. Project Level Review V.A.3-1

4. Minor Improvements V.A.4-1

5. Long-Term Improvements V.A.5-1

6. Conclusion V.A.6-1

B. Air Quality V.B-1

C. Noise V.C-1

VI. Other Statutory Sections VI-1

A. Significant and Unavoidable, and Cumulative Environmental Impacts VI-1

B. Growth-Inducing Impacts VI-8

VII. Alternatives VII-1
A Method of Alternatives Selection VII-2
B. Summary of Alternatives VII-14
VIII. EIR Authors and Consultants VIII-1
EIR Authors VIII-1
EIR Consultants VIII-1
Project Sponsor VIII-2

TABLES

Matrix 1.1	Summary of Program-Level Impacts	V.A.2-57
Matrix 1.2	Summary of Project-Level Impacts	V.A.3-626
Table ES-1	Summary of Significant Impacts and Mitigation Measures	ES-6
Table ES-2	Summary of Improvement Measures	ES-71
Table ES-3	Summary of Potential Impacts and Mitigation Measures Identified in the Initial Study (see Appendix A)	ES-72
Table V.0-1	All AM Intersections Studied	V.A.3-5
Table V.0-2	Study Intersections – PM Peak Hour	V.A.3-6
Table V.0-3	Transit Study Corridors	V.A.3-9
Table V.0-4	Transit Spot Study Locations	V.A.3-9
Table V.0-5	Parking and Loading Corridors	V.A.3-10
Table V.B-1	2006 Estimated Average Daily Emissions in San Francisco County and the San Francisco Bay Area	V.B-5
Table V.B-2	Summary of Local Ambient Air Quality in the Project Vicinity	V.B-7
Table V.B-3	Motor Vehicle Eight-Hour Average Carbon Monoxide Concentrations (ppm)	V.B-17
Table V.B-4	Motor Vehicle Traffic TAC Emissions on Selected Streets in the Plan Area	V.B-18
Table V.C-1	Traffic Noise Levels at Selected Residential Receptors	V.C-4

Cluster 1

Table V.1-1	Cluster 1 – Project 1-1 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour	V.A.3-25
Table V.1-2	Cluster 1 – Project 1-3 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour	V.A.3-29
Table V.1-3	Cluster 1 – Project 1-1 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions Weekday PM Peak Hour	V.A.3-193
Table V.1-4	Cluster 1 – Project 1-1 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-194

Table V.1-5 Cluster 1 – Project 1-3 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour V.A.3-200
Table V.1-6 Cluster 1 – Project 1-3 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and Cumulative plus Project Conditions - Weekday PM Peak Hour V.A.3-200
Table V.1-7 Cluster 1 – Project 1-3 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour..... V.A.3-210

Cluster 2

Table V.2-1 Cluster 2 – Project 2-1 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-46
Table V.2-2 Cluster 2 – Project 2-2 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-49
Table V.2-3 Cluster 2 – Project 2-3 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday AM Peak Hour V.A.3-52
Table V.2-4 Cluster 2 – Project 2-3 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-52
Table V.2-5 Cluster 2 – Project 2-4 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-54
Table V.2-6 Cluster 2 – Project 2-6 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-57
Table V.2-7 Cluster 2 – Project 2-7 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-59
Table V.2-8 Cluster 2 – Project 2-3 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday AM Peak Hour V.A.3-64

Table V.2-9	Cluster 2 – Project 2-11 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour	V.A.3-64
Table V.2-10	Cluster 2 – Project 2-12 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday AM Peak Hour	V.A.3-67
Table V.2-11	Cluster 2 – Project 2-12 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour	V.A.3-67
Table V.2-12	Cluster 2 – Project 2-16 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour	V.A.3-72
Table V.2-13	Cluster 2 – Project 2-1 Intersection Level of Service and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-212
Table V.2-14	Cluster 2 – Project 2-1 Intersection Level of Service and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-213
Table V.2-15	Cluster 2 - Comparison of Level of Service and Average Delay for 2nd Street/Townsend Street Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-220
Table V.2-16	Cluster 2 – Projects 2-1 and 2-16 Comparison of Level of Service and Average Delay for 2nd Street/ Townsend Street 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-221
Table V.2-17	Cluster 2 – Project 2-2 Intersection Level of Service (LOS) and Average Delay –Existing And Existing Plus Project Conditions – Weekday PM Peak Hour	V.A.3-235
Table V.2-18	Cluster 2 – Project 2-2 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-235
Table V.2-19	Cluster 2 – Combined Projects 2-3 and Project 2-11 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday AM Peak Hour	V.A.3-251

Table V.2-20	Cluster 2 – Combined Projects 2-3 and 2-11 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday AM Peak Hour	V.A.3-252
Table V.2-21	Cluster 2 – Projects 2-3 and 2-11 Comparison of Level of Service (LOS) and Average Delay for Church Street/Market Street/14th Street - Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-252
Table V.2-22	Cluster 2 – Projects 2-3 and 2-11 Comparison of Level of Service (LOS) and Average Delay for Church Street/Market Street/ 14th Street 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-253
Table V.2-23	Cluster 2 - Projects 2-4 and 2-6 Comparison of Level of Service (LOS) and Average Delay for 10th Street/Brannan Street/Potrero Avenue/Division Street Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-262
Table V.2-24	Cluster 2 – Project 2-4 c Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-262
Table V.2-25	Cluster 2 – Projects 2-4 and 2-6 Comparison of Level of Service (LOS) and Average Delay for 10th Street/Brannan Street/Potrero Avenue/Division Street 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-263
Table V.2-26	Cluster 2 – Project 2-4 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-263
Table V.2-27	Cluster 2 – Project 2-6 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-277
Table V.2-28	Cluster 2 – Project 2-6 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-277

Table V.2-29	Cluster 2 – Projects 2-6 and 2-4 Comparison of Level of Service (LOS) and Average Delay for 10th Street/Brannan Street/Potrero Avenue/Division Street Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-278
Table V.2-30	Cluster 2 – Projects 2-6 and 2-4 Comparison of Level of Service (LOS) and Average Delay for 10th Street/Brannan Street/Potrero Avenue/Division Street 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-278
Table V.2-31	Cluster 2 – Projects 2-7 and 2-9 Combined Comparison of Level of Service (LOS) and Average Delay for Fremont Street / Howard Street Existing and Existing plus Project Conditions – Weekday PM Peak Hour	V.A.3-285
Table V.2-32	Cluster 2 –Projects 2-7 and 2-9 Comparison of Level of Service (LOS) and Average Delay for Fremont Street/Howard Street 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-286
Table V.2-33	Cluster 2 – Project 2-9 Comparison of Level of Service (LOS) and Average Delay for Fremont Street/Howard Street Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-290
Table V.2-34	Cluster 2 – Project 2-9 Comparison of Level of Service (LOS) and Average Delay for Fremont Street/Howard Street 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-291
Table V.2-35	Cluster 2 – Project 2-11 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday AM Peak Hour	V.A.3-297
Table V.2-36	Cluster 2 – projects 2-3 and 2-11 Comparison of Level of Service (LOS) and Average Delay for Church Street/Market Street/14th Street - Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-297
Table V.2-37	Cluster 2 – Project 2-11 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday AM Peak Hour	V.A.3-298

Table V.2-38	Cluster 2 – Project 2-11 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday AM Peak Hour	V.A.3-298
Table V.2-39	Cluster 2 – project 2-3 and 2-11 Comparison of Level of Service (LOS) and Average Delay for Church Street/Market Street/14th Street - 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-299
Table V.2-40	Cluster 2 – Project 2-11 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-299
Table V.2-41	Cluster 2 – Project 2-11 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-300
Table V.2-42	Cluster 2 – Project 2-16 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-317
Table V.2-43	Cluster 2 – Project 2-16 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-317
Table V.2-44	Cluster 2 – Projects 2-1 and 2-16 Comparison of Level of Service (LOS) and Average Delay for 2nd Street/ Townsend Street Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-318
Table V.2-45	Cluster 2 – Projects 2-1 and 2-16 Comparison of Level of Service (LOS) and Average Delay for 2nd Street/ Townsend Street 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-318
Table V.2-46	Cluster 2 – Project 2-1 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour 2nd Street/Harrison Street	V.A.3-333

Table V.2-47	Cluster 2 – Project 2-1 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour 2nd Street/Harrison Street	V.A.3-335
Table V.2-48	Cluster 2 – Project 2-1 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour 2nd Street/Folsom Street	V.A.3-336
Table V.2-49	Cluster 2 – Project 2-1 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour 2nd Street/Folsom Street	V.A.3-337
Table V.2-50	Cluster 2 – Project 2-2 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-345
Table V.2-51	Cluster 2 – Project 2-3 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-347
Table V.2-52	Cluster 2 – Project 2-6 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-351
Table V.2-5 3	Cluster 2 – Project 2-7 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-352
Table V.2-54	Cluster 2 – Project 2-7 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-353
Table V.2-55	Cluster 2 – Project 2-9 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-353

Table V.2-56 Cluster 2 – Project 2-9 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour V.A.3-355
Table V.2-57 Cluster 2 – Project 2-16 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour 7th Street/Townsend Street V.A.3-357
Table V.2-58 Cluster 2 – Project 2-16 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour 7th Street/Townsend Street V.A.3-359
Table V.2-59 Cluster 2 – Project 2-16 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour V.A.3-360

Cluster 3

Table V.3-1 Cluster 3– Project 3-1 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-83
Table V.3-2 Cluster 3 – Project 3-2 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday AM Peak Hour V.A.3-85
Table V.3-3 Cluster 3 – Project 3-2 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-86
Table V.3 4 Cluster 3 – Projects 3-1 and 3-2 Comparison of Level of Service (LOS) and Average Delay for Masonic Avenue/Fell Street Existing and Existing plus Project Conditions - Weekday PM Peak Hour V.A.3-364
Table V.3-5 Cluster 3 – Projects 3-1 and 3-2 Comparison of Level of Service (LOS) and Average Delay for Masonic Avenue/Fell Street 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour V.A.3-366

Table V.3-6	Cluster 3 – Project 3-2 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday AM Peak Hour	V.A.3-371
Table V.3-7	Cluster 3 – Project 3-2 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-372
Table V.3-8	Cluster 3 – Project 3-2 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions – Weekday AM Peak Hour	V.A.3-372
Table V.3-9	Cluster 3 – Project 3-2 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions — Weekday PM Peak Hour	V.A.3-373
Table V.3-10	Cluster 3 Comparison of Level of Service (LOS) and Average Delay for Masonic Avenue/ Fell Street Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-373
Table V.3-11	Cluster 3 Comparison of Level of Service (LOS) and Average Delay for Masonic Avenue/ Fell Street 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-374
Table V.3-12	Cluster 3 – Projects 3-1 and 3-2 Combined Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-400
Table V.3-13	Cluster 3 – Project 3-2 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-403
Table V.3-14	Cluster 3 – Project 3-2 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-405

Cluster 4

Table V.4-1 Cluster 4 – Project 4-3 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-101

Table V.4-2 Cluster 4 – Project 4-3 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour V.A.3-409

Table V.4-3 Cluster 4 – Project 4-3 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour V.A.3-411

Cluster 5

Table V.5-1 Cluster 5 – Project 5-1 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-120

Table V.5-2 Cluster 5 – Project 5-2 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-122

Table V.5-3 Cluster 5 – Project 5-3 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-124

Table V.5-4 Cluster 5 – Project 5-4 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday AM Peak Hour V.A.3-126

Table V.5-5 Cluster 5 – Project 5-4 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-127

Table V.5-6 Cluster 5 – Project 5-5 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-129

Table V.5-7 Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday AM Peak Hour V.A.3-130

Table V.5-8	Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour	V.A.3-131
Table V.5-9	Cluster 5 – Project 5-9 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday AM Peak Hour	V.A.3-136
Table V.5-10	Cluster 5 – Project 5-9 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour	V.A.3-137
Table V.5-11	Cluster 5 – Project 5-12 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour	V.A.3-141
Table V.5-12	Cluster 5 – Project 5-1 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-418
Table V.5-14	Cluster 5 – Project 5-2 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-424
Table V.5-15	Cluster 5 – Project 5-2 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-425
Table V.5-16	Cluster 5 – Project 5-3 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-431
Table V.5-17	Cluster 5 – Project 5-3 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-432
Table V.5-18	Cluster 5 – Project 5-4 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday AM Peak Hour	V.A.3-436
Table V.5-19	Cluster 5 – Project 5-4 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday AM Peak Hour	V.A.3-436
Table V.5-20	Cluster 5 – Project 5-4 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-438

Table V.5-21	Cluster 5 – Project 5-4 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-438
Table V.5-22	Cluster 5 – Project 5-5 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-451
Table V.5-23	Cluster 5 – Project 5-5 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-453
Table V.5-24	Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday AM Peak Hour	V.A.3-458
Table V.5-25	Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday AM Peak Hour	V.A.3-459
Table V.5-26	Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-460
Table V.5-27	Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-461
Table V.5-28	Cluster 5 – Project 5-9 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday AM Peak Hour	V.A.3-486
Table V.5-29	Cluster 5 – Project 5-9 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday AM Peak Hour	V.A.3-487
Table V.5-30	Cluster 5 – Project 5-9 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-488
Table V.5-31	Cluster 5 – Project 5-9 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-488
Table V.5-32	Cluster 5 – Project 5-12 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-505

Table V.5-33	Cluster 5 – Project 5-12 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-506
Table V.5-34	Cluster 5 – Project 5-4 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-515
Table V.5-35	Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday AM Peak Hour	V.A.3-518
Table V.5-36	Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-519
Table V.5-37	Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-522
Table V.5-38	Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-523
Table V.5-39	Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-526
Table V.5-40	Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday AM Peak Hour	V.A.3-526
Table V.5-41	Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour	V.A.3-529

Table V.5-42 Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour V.A.3-529
Table V.5-43 Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour V.A.3-530
Table V.5-44 Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay Comparison 2025 Cumulative plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour V.A.3-534
Table V.5-45 Cluster 5 – Project 5-6 Intersection Level of Service (LOS) and Average Delay Comparison Existing plus Project Conditions with Mitigation Measures - Weekday PM Peak Hour V.A.3-534

Cluster 6

Table V.6-1 Cluster 6– Project 6-2 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-151
Table V.6-2 Cluster 6– Project 6-3 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-153
Table V.6-3 Cluster 6 – Project 6-5 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday AM Peak Hour V.A.3-156
Table V.6-4 Cluster 6 – Project 6-5 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-156
Table V.6-5 Cluster 6 – Project 6-6 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour V.A.3-158
Table V.6-6 Cluster 6 Comparison of Level of Service (LOS) and Average Delay for Burnett Avenue/ Clipper Street/Portola Drive Existing and Existing plus Project Conditions - Weekday PM Peak Hour V.A.3-543

Table V.6-7	Cluster 6 Comparison of Level of Service (LOS) and Average Delay for Burnett Avenue/Clipper Street/ Portola Drive 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-543
Table V.6-8	Cluster 6 – Project 6-3 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-549
Table V.6-9	Cluster 6 – Project 6-3 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-549
Table V.6-10	Cluster 6 – Projects 6-5 and 6-6 Comparison of Level of Service (LOS) and Average Delay for Woodside Avenue/O'Shaughnessy Boulevard/ Portola Drive Existing and Existing plus Project Conditions - Weekday AM Peak Hour	V.A.3-556
Table V.6-11	Cluster 6 Comparison of Level of Service (LOS) and Average Delay for Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-557
Table V.6-12	Cluster 6 Comparison of Level of Service (LOS) and Average Delay for Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday AM Peak Hour	V.A.3-558
Table V.6-13	Cluster 6 Comparison of Level of Service (LOS) and Average Delay for Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-559
Table V.6-14	Cluster 6 Comparison of Level of Service (LOS) and Average Delay for Burnett Avenue/ Clipper Street/Portola Drive Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-563
Table V.6-15	Cluster 6 Comparison of Level of Service (LOS) and Average Delay for Burnett Avenue/	

	Clipper Street/Portola Drive 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-564
Table V.6-16	Cluster 6 Comparison of Level of Service (LOS) and Average Delay for Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive Existing and Existing plus Project Conditions - Weekday AM Peak Hour	V.A.3-573
Table V.6-17	Cluster 6 Comparison of Level of Service (LOS) and Average Delay for Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-574
Table V.6-18	Cluster 6 Comparison of Level of Service (LOS) and Average Delay for Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday AM Peak Hour	V.A.3-575
Table V.6-19	Cluster 6 Comparison of Level of Service (LOS) and Average Delay for Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-576
Table V.6-20	Cluster 6 – Project 6-6 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour	V.A.3-579
Table V.6-21	Cluster 6 – Project 6-6 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-579

Cluster 7

Table V.7-1	Cluster 7– Project 7-1 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour	V.A.3-168

Table V.7-2	Cluster 7– Project 7-2 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour	V.A.3-170
Table V.7-3	Cluster 7– Project 7-3 Intersection Level of Service (LOS) and Average Delay – Existing Conditions Weekday PM Peak Hour	V.A.3-172
Table V.7-4	Cluster 7 – Project 7-1 Intersection Level of Service and Average Delay – Existing and Existing Plus Project Conditions - Weekday PM Peak Hour	V.A.3-598
Table V.7-5	Cluster 7 – Project 7-1 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-599
Table V.7-6	Cluster 7 – Project 7-2 Intersection Level of Service and Average Delay – Existing and Existing plus Project Conditions Weekday PM Peak Hour	V.A.3-601
Table V.7-7	Cluster 1 – Project 7-2 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-602
Table V.7-8	Cluster 7 – Project 7-3 Intersection Level of Service and Average Delay – Existing and Existing Plus Project Conditions Weekday PM Peak Hour	V.A.3-605
Table V.7-9	Cluster 1 – Project 7-3 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and Cumulative plus Project Conditions - Weekday PM Peak Hour	V.A.3-606

FIGURES

Figure IV.B.1-1	Project location and Site Plan	IV.B-5
Figure IV.D.1-1	Illustration of Sharrows	IV.D-56
Figure V.A.3-1	A Sharrow	V.A.3-2
Figure V.A.3-2	Project Level Analysis Study Clusters	V.A.3-4
Figure V.A.3-3	Sensitivity of Vehicle Delay to Volume/Capacity Ratio	V.A.3-16
Figure V.A.3-4	Average Bus Reentry Delay into Adjacent Traffic	V.A.3-18
Figure V.A.3-5	Cluster 1 - Study Area	V.A.3-20
Figure V.A.3-6	Cluster 2 - Study Area	V.A.3-32
Figure V.A.3-7	Cluster 3 - Study Area	V.A.3-82
Figure V.A.3-8	Cluster 4 - Study Area	V.A.3-99
Figure V.A.3-9	Cluster 5 - Study Area	V.A.3-106
Figure V.A.3-10	Cluster 6 - Study Area	V.A.3-149
Figure V.A.3-11	Cluster 7 - Study Area	V.A.3-162
Figure V.A.3-12	Cluster 8 - Study Area	V.A.3-179
Figure V.A.4-1	Sharrow	V.A.4-3
Figure V.A.4-2	Example "U" Rack and On Street Bicycle Parking	V.A.4-5
Figure V.A.4-3	Bicycle Box Schematic	V.A.4-7
Figure V.A.4 4	Bicycle Box on 14th Street	V.A.4-8
Figure V.A.5-1	Long-Term Improvements	V.A.5-2

APPENDICES

Appendix A: Initial Study **A-1**

Appendix B: Near-term Improvement Project Drawings **B-1**

Project 1-1 Existing Broadway St, Polk St to Webster St B-1
Project 1-1 Proposed Broadway St, Polk St to Webster St B-2
Project 1-2 Existing Broadway Tunnel Powell St to Larkin St B-3
Project 1-2 Proposed Broadway Tunnel West Portal B-4
Project 1-2 Proposed Broadway Tunnel East Portal B-5
Project 1-3 Existing North Point St, The Embarcadero to Van Ness Ave B-6
Project 1-3 Proposed North Point St, The Embarcadero to Van Ness Ave B-8
Project 2-1 Existing 2nd St, King to Market Sts B-10
Project 2-1 Proposed Option 1, 2nd St, King to Market Sts B-12
Project 2-1 Proposed Option 2, 2nd St, King to Market Sts B-14
Project 2-2 Existing 5th St, Market to Townsend Sts B-16
Project 2-2 Proposed Option 1, 5th St, Market to Townsend Sts B-17
Project 2-2 Proposed Option 2, 5th St, Market to Townsend Sts B-19
Project 2-3 Existing 14th St, Dolores to Market Sts B-21
Project 2-3 Proposed Option 1,14th St, Dolores to Market Sts B-22
Project 2-3 Proposed Option 2,14th St, Dolores to Market Sts B-23
Project 2-4 Existing 17th St, Corbett Ave to Kansas St B-24
Project 2-4 Proposed Option 1,17th St, Corbett Ave to Kansas St B-31
Project 2-4 Proposed Option 2,17th St, Corbett Ave to Kansas St B-37
Project 2-5 Existing Beale St, Folsom St to Bryant St B-44
Project 2-5 Proposed Beale St, Folsom St to Bryant St B-45
Project 2-6 Existing Division St, 9th St to 11th St B-46
Project 2-6 Proposed Option 1, Division St, 9th St to 11th St B-47
Project 2-6 Proposed Option 2, Division St, 9th St to 11th St B-48
Project 2-7 Existing Fremont St, Harrison St to Howard St B-49
Project 2-7 Proposed Fremont St, Harrison St to Howard St B-50
Project 2-8 Existing Howard St, Westbound Short Extension at 9th St B-51
Project 2-8 Proposed Option 1, Howard St, Westbound Short Extension at 9th St B-52
Project 2-9 Existing and Proposed Howard St, The Embarcadero to Fremont St B-53
Project 2-10 Existing Market St, Valencia St, Intersection Improvement B-54
Project 2-10 Proposed Market St, Valencia St, Intersection Improvement B-55
Project 2-11 Existing Market St, 17th St to Octavia Blvd B-56

Project 2-11	Proposed Option 1, Market St, 17th St to Octavia Blvd	B-58
Project 2-11	Proposed Option 2, Market St, 17th St to Octavia Blvd	B-60
Project 2-12	Existing Market St, Octavia Blvd to Van Ness Ave	B-62
Project 2-12	Proposed Market St, Octavia Blvd to Van Ness Ave	B-63
Project 2-13	Existing McCoppin St, Market to Valencia Sts	B-64
Project 2-13	Proposed McCoppin St, Market to Valencia Sts	B-65
Project 2-14	Existing McCoppin St, Gough St to Valencia St	B-66
Project 2-14	Proposed McCoppin St, Gough St to Valencia St	B-67
Project 2-15	Existing Otis St, Gough St to South Van Ness Ave	B-68
Project 2-15	Proposed Otis St, Gough St to South Van Ness Ave	B-69
Project 2-16	Existing Townsend St, 8th St to The Embarcadero	B-70
Project 2-16	Proposed Option 1 - Townsend St, 8th St to The Embarcadero	B-73
Project 2-16	Proposed Option 2 - Townsend St, 8th St to The Embarcadero	B-76
Project 3-1	Existing Fell St and Masonic Ave Intersection	B-79
Project 3-1	Proposed Option 1, Fell St and Masonic Ave Intersection	B-80
Project 3-1	Proposed Option 2, Fell St and Masonic Ave Intersection	B-81
Project 3-2	Existing Masonic Ave, Fell St to Geary Blvd	B-82
Project 3-2	Proposed Option 1, Masonic Ave, Fell St to Geary Blvd	B-84
Project 3-2	Proposed Option 2, Masonic Ave, Fell St to Geary Blvd	B-86
Project 3-3	Existing and Proposed McAllister St, Market St to Masonic Ave	B-88
Project 3-4	Existing Polk St, Market to McAllister Sts	B-89
Project 3-4	Proposed Option 1, Polk St, Market to McAllister Sts	B-90
Project 3-4	Proposed Option 2, Polk St, Market to McAllister Sts	B-91
Project 3-5	Existing Scott St, Fell to Oak Sts	B-92
Project 3-5	Proposed Option 1, Scott St, Fell to Oak Sts	B-93
Project 3-5	Proposed Option 2, Scott St, Fell to Oak Sts	B-94
Project 3-6	Existing The Wiggle, Duboce/Steiner/Waller/Pierce/Haight/Scott	B-95
Project 3-6	Proposed The Wiggle, Duboce/Steiner/Waller/Pierce/Haight/Scott	B-98
Project4-1	Existing 16th St, 3rd St to Terry Francois Blvd	B-101
Project 4-1	Proposed 16th St, 3rd St to Terry Francois Blvd	B-102
Project 4-2	Existing Cargo Way, 3rd St to Jennings St	B-103
Project 4-2	Proposed Option 1, Cargo Way, 3rd St to Jennings St	B-104
Project 4-2	Proposed Option 2, Cargo Way, 3rd St to Jennings St	B-106
Project 4-3	Existing Illinois St, 16th St to Cargo Way	B-107
Project 4-3	Proposed Illinois St, 16th St to Cargo Way	B-110
Project 4-4	Existing Innes Ave, Donahue St to Hunters Point Blvd	B-113

Project 4-4	Proposed Option 1, Innes Ave, Donahue St to Hunters Point Blvd	B-114
Project 4-4	Proposed Option 2, Innes Ave, Donahue St to Hunters Point Blvd	B-115
Project 4-5	Existing and Proposed Mississippi St, Mariposa St to 16th St	B-116
Project 5-1	Existing and Proposed 23rd St, Kansas St to Potrero Ave	B-117
Project 5-2	Existing Alemany Blvd, Westbound Bayshore to Rousseau	B-118
Project 5-2	Proposed Alemany Blvd, Westbound Bayshore to Rousseau	B-123
Project 5-3	Existing Alemany Blvd, Rousseau St to San Jose Ave	B-128
Project 5-3	Proposed Alemany Blvd, Rousseau St to San Jose Ave	B-134
Project 5-4	Existing Bayshore Blvd, Cesar Chavez to Silver Ave	B-140
Project 5-4	Proposed Option 1, Bayshore Blvd, Cesar Chavez to Silver Ave	B-144
Project 5-4	Proposed Option 2, Bayshore Blvd, Cesar Chavez to Silver Ave	B-148
Project 5-5	Existing, Options 1 and 2 Cesar Chavez, US 101 (Kansas) to 1-280 (Mississippi)	B-152
Project 5-6	Cesar Chavez St, Hampshire St/US 101 to Sanchez St	B-153
Project 5-7	Existing Glen Park Area (a) - Arlington, Bosworth, Lyell, Milton, Rousseau, Still, Alemany Blvd to San Jose Ave	B-154
Project 5-7	Proposed Option 1, Glen Park Area (a) - Arlington, Bosworth, Lyell, Milton, Rousseau, Still, Alemany Blvd to San Jose Ave	B-156
Project 5 -7	Proposed Option 2, GlenParkArea(a)Arlington,Bosworth,Lyell,Milton, Rousseau, Still, Alemany Blvd to San Jose Ave	B-158
Project 5-7	Existing Glen Park Area (b) San Jose/Monterey Ramps, Monterey Blvd to Milton St	B-160
Project 5-7	Proposed Glen Park Area (b) - San Jose/Monterey Ramps, Monterey Blvd to Milton St	B-161
Project 5-8	Existing Kansas St, 23rd St to 26th St	B-162
Project 5-8	Proposed Kansas St, 23rd St to 26th St	B-164
Project 5-9	Existing Ocean Ave, Alemany Blvd to Lee Ave	B-166
Project 5-9	Proposed Option l,Ocean Ave, Alemany Blvd to Lee Ave	B-169
Project 5-9	Proposed Option 2, Ocean Ave, Alemany Blvd to Lee Ave	B-172
Project 5-10	Existing Phelan Ave, Judson Ave to Ocean Ave	B-174
Project 5-10	Proposed Option 1, Phelan Ave, Judson Ave to Ocean Ave	B-175
Project 5-10	Proposed Option 2, Phelan Ave, Judson Ave to Ocean Ave	B-176
Project 5-11	Existing Potrero Ave and Bayshore Blvd, 25th St to Cesar Chavez	B-177
Project 5-11	Proposed Potrero Ave and Bayshore Blvd, 25th St to Cesar Chavez	B-178
Project 5-12	Existing Sagamore St and Sickles Ave, Alemany Blvd to Brotherhood Way	B-179

Project 5-12	Proposed Option 1, Sagamore St and Sickles Ave, Alemany Blvd to Brotherhood Way	B-180
Project 5-12	Proposed Option 2, Sagamore St and Sickles Ave, Alemany Blvd to Brotherhood Way	B-181
Project 5-13	Existing San Bruno Ave, Paul Ave to Silver Ave	B-182
Project 5-13	Proposed Option 1, San Bruno Ave, Paul Ave to Silver Ave	B-184
Project 5-13	Proposed Option 2, San Bruno Ave, Paul Ave to Silver Ave	B-186
Project 6-1	Existing Claremont Blvd, Portola Drive to Dewey Circle	B-188
Project 6-1	Proposed Claremont Blvd, Portola Drive to Dewey Circle	B-189
Project 6-2	Clipper St, Douglass St to Portola Drive	B-190
Project 6-2	Proposed Option 1, Clipper St, Douglass St to Portola Drive	B-191
Project 6-2	Proposed Option 2, Clipper St, Douglass St to Portola Drive	B-193
Project 6-3	Existing Laguna Honda Blvd, Plaza St to Woodside Ave	B-195
Project 6-3	Proposed Option 1, Laguna Honda Blvd, Plaza St to Woodside Ave	B-196
Project 6-3	Proposed Option 2, Laguna Honda Blvd, Plaza St to Woodside Ave	B-197
Project 6-4	Existing Laguna Honda Blvd, Portola Drive to Woodside Ave	B-198
Project 6-4	Proposed Laguna Honda Blvd, Portola Drive to Woodside Ave	B-199
Project 6-5	Existing Portola Drive, Corbett Ave to O'Shaughnessy Blvd	B-200
Project 6-5	Proposed Portola Drive, Corbett Ave to O'Shaughnessy Blvd	B-204
Project 6-6	Existing, Proposed Options 1 & 2 Portola Drive O'Shaughnessy Blvd to Sloat Blvd	B-207
Project 7-1	Existing and Proposed Seventh Ave, Lincoln Way - Intersection	B-208
Project 7-2	Existing Seventh Ave, Lincoln Way to Lawton St	B-209
Project 7-2	Proposed Seventh Ave, Lincoln Way to Lawton St	B-210
Project 7-3	Existing Great Highway and Point Lobos, Balboa St to El Camino Del Mar	B-211
Project 7-3	Proposed Great Highway and Point Lobos, Balboa St to El Camino Del Mar	B-213
Project 7-4	Existing John F. Kennedy Drive and Kezar Drive, Stanyan Street to Transverse Drive	B-216
Project 7-4	Proposed John F. Kennedy Drive, Kezar Drive to Transverse Drive	B-220
Project 7-5	Existing and Proposed Kirkham St, 9th Ave to Great Highway	B-225
Project 7-6	Existing and Proposed Page St, and Stanyan St Intersection	B-231
Project 8-1	Existing 19th Ave, Buckingham Way to Holloway Ave	B-232
Project 8-1	Proposed Option 1,19th Ave, Buckingham Way to Holloway Ave	B-233
Project 8-1	Proposed Option 2,19th Ave, Buckingham Way to Holloway Ave	B-234

Project 8-2	Existing Buckingham Way, 19th to 20th Aves	B-235
Project 8-2	Proposed Buckingham Way, 19th to 20th Aves	B-236
Project 8-3	Existing Holloway Ave, Junipero Serra Blvd to Varela Ave	B-237
Project 8-3	Proposed Option 1, Holloway Ave, Junipero Serra Blvd to Varela Ave	B-238
Project 8-3	Proposed Option 2, Holloway Ave, Junipero Serra Blvd to Varela Ave	B-239
Project 8-4	Existing John Muir Drive, Lake Merced Blvd to Skyline Blvd	B-240
Project 8-4	Proposed John Muir Drive, Lake Merced Blvd to Skyline Blvd	B-242
Project 8-5	Existing Sloat Blvd, Great Highway to Skyline Blvd	B-244
Project 8-5	Proposed Sloat Blvd, Great Highway to Skyline Blvd	B-247
Appendix C	**MSAT Model Output**	**C-1**

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I. GLOSSARY

ACWS	Asphalt Concrete Wearing Surface
ABAG	Association of Bay Area Governments
BBATF	BART Bicycle Accessibility Task Force
BAAQMD	Bay Area Air Quality Management District
BAC	Bicycle Advisory Committee
BART	Bay Area Rapid Transit
BAFUL	Bicycles Allowed Full Use of Lane
BATA	Bay Area Toll Authority
BFU	Caltrans Bicycle Facilities Unit
BOS	Board of Supervisors
BTP	Bicycle Transportation Plan
BTIP	Bayview Transportation Improvement Project
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMUTCD	California Manual on Uniform Traffic Control Devices
CTCDC	California Traffic Control Device Committee
CVC	California Vehicle Code
CMA	Congestion Management Agency
DPT	Department of Parking and Traffic
DPH	Department of Public Health
DPW	Department of Public Works
EMS	Emergency Medical Services Division
EIR	Environmental Impact Report
GGBHTD	Golden Gate Bridge Highway and Transportation District
GGNRA	Golden Gate National Recreation Area
GGT	Golden Gate Transit
GIS	Geographic Information System
HDM	Caltrans Highway Design Manual
IS	Initial Study
ISCOTT	Interdepartmental Staff Committee on Traffic and Transportation
ISTEA	Inter-modal Surface Transportation Efficiency Act
ITS	Intelligent Transportation System
LAB	League of American Bicyclists
LOS	Level of Service
LRV	Light Rail Vehicle
MEA	Major Environmental Analysis
MMC	methyl methacrylate
MPO	Metropolitan Planning Organization
MTA	San Francisco Municipal Transportation Agency
MTA CAC	Municipal Transportation Agency Citizen's Advisory Council
MTC	Metropolitan Transportation Commission

MUTCD	Federal Manual of Uniform Traffic Control Devices
Muni	San Francisco Municipal Railway
OTS	Office of Traffic Safety
OC	Oversight Committee
PCO	Parking Control Officer
PJPB	Peninsula Joint Powers Board (Caltrain)
PMS	Pavement Management System
ROW	Right-Of-Way
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
SAR	Strategic Analysis Report
SCCC	Street Construction Coordination Center
SFBC	San Francisco Bicycle Coalition
SFCTA	San Francisco County Transportation Authority
SF Environment	Department of the Environment
SFFD	San Francisco Fire Department
SFGH	San Francisco General Hospital
SFMTA	San Francisco Municipal Transportation Agency
SFPD	San Francisco Police Department
SFRA	San Francisco Redevelopment Agency
SFUSD	San Francisco Unified School District
Sharrow	Shared Lane Pavement Marking
SR2S	Safe Routes to School
STIP	State Transportation Improvement Program
SWITRS	Statewide Integrated Traffic Records System
TC	San Francisco Transportation Code
TDA	Transportation Development Act
TEA-21	Transportation Equity Act of the 21st Century
TFCA	Transportation Fund for Clean Air
TIS	Transportation Impact Study
TWG	Technical Working Group

II. EXECUTIVE SUMMARY

This Environmental Impact Report (EIR) chapter provides a brief summary of the proposed San Francisco Bicycle Plan Project (the "Proposed Project") and its potential environmental consequences. The chapter includes a summary description of the Proposed Project, a summary list of related environmental issues to be resolved, a summary identification of the associated significant environmental impact and mitigation findings of this EIR, and a summary of EIR-identified alternatives to the Proposed Project and their comparative environmental effects.

This summary should not be relied upon for a thorough understanding of the Proposed Project and its individual impacts and mitigation needs. Please refer to Chapter IV of this EIR for a more complete description of the Proposed Project and to Chapters V and VI for a more complete description of associated impacts and mitigation needs, and Chapter VII of this EIR for a more complete description of identified alternatives to the Proposed Project and their comparative impacts.

A. PROJECT SYNOPSIS

The San Francisco Bicycle Plan (Bicycle Plan Project), would provide for the implementation of near-term bicycle route improvement projects (near-term improvements), long-term bicycle route network improvement projects (long-term improvements), and minor improvements such as signage and pavement marking changes. It would also adopt policy goals, objectives, and actions to support the implementation of these and related changes, at this time and in the future. By enacting these changes, the Bicycle Plan Project's overall goal is to increase safe bicycle use; the Bicycle Plan's specific goals are to (1) refine and expand the existing bicycle route network; (2) ensure plentiful, high-quality bicycle parking to complement the bicycle route network; (3) expand bicycle access to transit and bridges (4) educate the public about bicycle safety; (5) improve bicycle safety through targeted enforcement; (6) promote and encourage safe bicycling; (7) adopt bicycle-friendly practices and policies; and (8) prioritize and increase bicycle funding.

BICYCLE PLAN

In order to accomplish its goals, the Proposed Project would amend the City and County of San Francisco's *General Plan*, the *Planning Code*, and the *Transportation Code* to reflect the Bicycle Plan or implement its policies.

In order to accomplish its goals, the Bicycle Plan Project would implement policy actions, near-term improvements, minor improvements, and long-term improvements. Implementation of the policy actions, and implementation of the proposed improvements, would also require amendments to the *San Francisco General Plan* and *Planning Code.* Some *Transportation Code* amendments would also be required, to allow for bicycle safety education, issuance of bicycle "fix-it" tickets, and other actions. Each proposed policy; near-term improvement, long-term, improvement, and minor improvement is described in Chapter IV, Project Description, and analyzed in Chapter V, Subsections V.A.2 through V.A.5, pp. V.A.2-1 through V.A.5-30, of this EIR. Applicable changes to the *General Plan, Planning Code,* or *Transportation Code* are proposed to reflect the updated Bicycle Plan policies.

Near-term Improvements

The near-term improvements are bicycle route network improvement projects that will address gaps and deficiencies within the existing bicycle route network. These near-term improvements include bicycle projects that were originally listed as priority projects in the April 2005 draft Network Improvement Document (NID); projects that were already funded, but not implemented prior to the Superior Court of California ruling that prevented implementation; and projects that have recently been designed. There are 60 near-term improvements with complete and specific project designs.

The proposed near-term improvements consist of design elements intended to enhance safety and improve bicycle travel in the City. These elements vary from simple improvements such as pavement markings, including sharrows,[1] to more complex treatments, like the installation of bicycle lanes, pathways or other bicycle facilities. Some of these treatments may be implemented in conjunction with the removal or narrowing of traffic lanes. For most of the specific near-term improvements, more than one design option has been developed for consideration by decision makers. The design options chosen for analysis for each project represent a range in terms of resulting environmental effects. As such, these options now constitute a suite of design elements from which decision-makers may choose in order to address the network deficiencies at a specific location. With certification of the Bicycle Plan Project EIR, no further environmental analysis would be required to implement any such design

[1] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/CAMUTCDPart9.pdf.

element that is within the range of design elements studied as part of this environmental review process.

Written project descriptions for each of the 60 near-term improvements are included in the Project Description section of this report and project drawings showing existing and proposed road configurations are provided in Appendix B. The project-level analysis of potential environmental effects is included in Chapter V, Section V.A.3, p. V.A.3-1. The implementation of these design-ready projects will close network gaps and improve safety and cyclists' experience, thereby increasing bicycle ridership to meet the overall goal of the Bicycle Plan.

Minor Improvements

Minor improvements are treatments that may be implemented as necessary to improve conditions for bicycle use within the City. They include the following design elements to improve bicycle travel: minor pavement marking and signage changes such as the installation of colored pavement materials or sharrows (shared lane markings) or minor changes to parking and traffic lane configurations; minor changes to intersection traffic signal timing plans; the installation of bicycle boxes[2] at certain intersections; and bicycle parking within the public right-of-way, including bicycle racks on sidewalks meeting certain criteria and on-street bicycle parking. Program-level review for the minor improvements is presented in Subsection V.A.4, (p V.A.4-1), of this report.

Long-term Improvements

Long-term improvements are bicycle route network improvement projects that consist of either major improvements to segments of the existing bicycle route network or are potential future additions of new streets and pathways to the bicycle route network. These proposed long-term improvements include a wide range of potential design features that will improve the overall connectivity and safety of the bicycle route network. Currently, neither a schedule nor specific designs for these projects have been developed.

The anticipated long-term improvements may include, but are not limited to, the following design elements to improve bicycle travel: signage changes; pavement marking such as the

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[2] Bicycle boxes are striped waiting areas for bicyclists situated behind a crosswalk and in front of a motor vehicle stop bar where a bicycle lane approaches a signalized intersection. Bicycle boxes allow bicyclists approaching an intersection in a bicycle lane to move to the front of a queue of motor vehicles and position themselves for turning movements at the intersection. Bicycle boxes include a stenciled bicycle marking and are generally accompanied by signs communicating where bicycles and motor vehicles should stop.

installation of colored pavement materials and the installation of sharrows; modifications to bus zones and parking configurations such as changes to the location, configuration, and number of metered or unmetered parking spaces and loading zones; changes to the locations and configurations of curbs, sidewalks and medians (including both planted and unplanted), including widening of roadways; reconfiguration of intersections to improve bicycle crossings, including installation of bicycle traffic signals; the installation of traffic calming devices, including designation of bicycle boulevards that prioritize bicycle travel over other transportation modes; installation of bicycle lanes, pathways or other bicycle facilities, including in conjunction with the narrowing or removal of traffic lanes; the removal of parking spaces, and the designation of shared bicycle and transit lanes.

The impacts of these future improvements are evaluated at a program level in this analysis with regard to the Proposed Project footprint (the affected street right-of-way and park land). Once fully developed, these future improvements, individually or collectively, may require further project-level environmental analysis that would consider the potential environmental effects of these improvements. The program-level analysis for these long-term improvements is presented in Chapter V, Subsection V.A.5, p. V.A.5-1, of this report.

B. ENVIRONMENTAL ISSUES

As provided for in the California Environmental Quality Act (CEQA) statues and guidelines, the environmental focus of this EIR is limited to those environmental issues known to the San Francisco Planning Department (Planning Department, the Lead Agency under CEQA), including those concerns identified as possibly significant in their preliminary review of the Proposed Project (Initial Study, attached in Appendix A[3]) and Notice of Preparation (NOP), and by other interested agencies and individuals in response to the NOP. These identified areas of environmental concern include possible project impacts on:

- Cultural Resources
- Transportation and Circulation
- Noise
- Air Quality
- Biological Resources
- Mandatory Findings of Significance

[3] The Initial Study for the Bicycle Plan Project EIR was published on March 15, 2008 with an Appendix of Project Drawings (Appendix A of the Initial Study). Some of the project drawings have been modified. A current set of project drawings for the near-term improvements is being provided here as Appendix B. Therefore, Appendix A of the Initial Study is not being attached to this document. These drawings are available online at the Planning Department Web site, www.sfplanning.org/mea, or may be viewed by appointment at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, as part of Case file 2007.0347E.

The following Table ES-1, "Summary of Significant Impacts and Mitigation Measures" on p. ES-6, identifies the potential impacts that the Bicycle Plan Project could potentially have on the physical environment. Where applicable, this table identifies project revisions or conditions, expressed as mitigation measures, which would reduce the identified impact(s) to a less-than-significant level. All of the impacts identified in this table have been identified as significant . The impact's level of significance after implementation of the required Mitigation Measure is provided in the column labeled, "Potential Significance With Mitigation." This table further separates the anticipated impacts according to the separation of analysis provided in this document.

These impacts are listed in the same internal order as they appear in the text of Chapter 3 of this document. Transportation and transportation-related impacts are listed first in this table. Program policy action impacts are identified by the abbreviation "TR-Ax.x" where the "x.x" matches the numbering provided for each policy action, in the Bicycle Plan Program-Level discussion of Subsection V.A.2, p. V.A.2-1, of this EIR. Project-level impacts follow, and are identified by the abbreviation "TR-Px-xx" where the "x-xx" matches the numbering provided for each of the 60 specific near-term projects analyzed in Subsection V.A.3, p. V.A.3-1, of this EIR. No significant impacts were identified for any of the nine minor improvements, as is noted in the table. The potentially-significant impacts that would result from long-term improvements are presented next, and are identified by the abbreviation "TR-LTx.x" where "x.x" matches the numbering provided for each long-term improvement analyzed in Subsection V.A.5, p. V.A.5-1, of this EIR. Air Quality and Noise entries follow the review of Transportation impacts. However, no significant Air Quality or Noise impacts were identified in the environmental analysis of this Bicycle Plan Project. The headings for these entries are included in the table as place-holders, but no significant impacts or mitigation measures are included under either header.

This table should not be relied upon for a thorough understanding of the Proposed Project and its impacts and mitigation needs, but is presented for the reader's reference as a simplified overview of project impacts and mitigation measures. In addition, summary matrices for policy actions and near-term project-level impacts may be found at the end of transportation impact Subsections V.A.2 (program-level review of the Bicycle Plan policy actions), and V.A.3 (project-level review of the 60 near-term improvements).

TABLE ES-1
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
SIGNIFICANT TRANSPORTATION IMPACTS OF PROGRAM-LEVEL BICYCLE PLAN POLICY ACTIONS			
Bicycle Route Network Goals, Objectives and Action Items			
TR-A1.1: Predictable indirect impacts from approval of a policy to implement improvements to streets and paths proposed as near-term improvements, and to implement minor improvements to other streets and paths on the existing bicycle route network, or in the case of bicycle parking, to implement minor improvements within the street right-of-way, would include construction of the aforementioned improvements. The indirect results of this action would, therefore, include all of those environmental impacts identified under the sections of the transportation study for the Bicycle Plan related to the project-level impacts of the near-term improvements and the program-level impacts resulting from implementation of the minor improvements. The results of this analysis are summarized in Subsections V.A.3 and V.A.4 of this report. The mitigation measures identified in Subsection V.A.3 would lessen some of the impacts that may result from implementation of the near-term improvements. No significant impacts were identified from the minor improvements in Subsection V.A.4. However, there would be some environmental impacts from the near-term improvements that would remain significant and unavoidable as described in Subsection V.A.3 of this report	Traffic, Transit and Loading	**M-TR-A1.1:** Mitigation Measures defined in Subsection V.A.3 shall be implemented in association with the 60 near-term improvements proposed and implemented under the Bicycle Plan. For those identified significant impacts with respect to traffic, transit, and loading in Subsection V.A.3 for which no feasible mitigation measures have been identified, the impacts remain significant and unavoidable.	SUI

SUI = Significant unavoidable Impact
Unless other wise noted all Traffic Impacts refer to PM peak hour

LTS = Less than Significant

TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-A1.2: Predictable indirect impacts from approval of a policy to implement improvements to streets and paths proposed as long-term improvements on the existing bicycle route network as well as additions to the network would include construction of the aforementioned improvements. The indirect results of this action would, therefore, include all of those environmental impacts identified under the sections of the transportation impact study for the Bicycle Plan related to the program-level impacts of the long-term improvements. The results of this analysis are summarized in Subsection V.A.5 of this report and include potentially significant and significant and unavoidable impacts. As has been previously stated, the specific designs for the long-term improvements are unknown at this time. The mitigations measures identified in Subsection V.A.5 would lessen some of the impacts that may result from implementation of the long-term improvements. However, there would be some that would remain significant and unavoidable.	Traffic, Transit, and Loading	**M-TR-A1.2:** Mitigation Measures discussed and defined in Subsection V.A.5 shall be implemented in association with long-term improvements proposed and implemented under the Bicycle Plan. Specific designs for the long-term improvements are unknown at this time. Once specific project designs for the long-term improvements are developed and analyzed for potential environmental impacts with respect to traffic, transit, parking, pedestrian, bicycles and loading, mitigation measures may be identified and implemented.	SUI
TR-A1.4: Predictable indirect impacts from the collaboration between the SFMTA and other agencies to ensure that San Francisco continues to implement the Transit-First Policy could include the construction of improvements or implementation of other changes to meet Transit-	Traffic, Transit, and Loading	**M-TR-A1.4:** The indirect impacts of Action 1.4 could result in the implementation of improvements to support the City's Transit First Policy. Therefore, it would include potential impacts identified under all sections of this environmental review for the Bicycle Plan such as those discussed in the transportation	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
First Policy goals. The indirect impacts of Action 1.4 would, therefore, include potential impacts identified under the environmental review for all sections of the Bicycle Plan such as those discussed in the analysis of the potential impacts of the near-term improvements, long-term improvements, and minor improvements, as well as impacts that may result from future projects which would be similar to those discussed in this analysis. Physical improvements known at this time are analyzed in Subsections V.A.3, V.A.4, and V.A.5 of this document. As discussed in Subsection V.A.4, no significant impacts would result from implementation of the minor improvements. Mitigation measures have been identified in Subsections V.A.3 and V.A.5 that would address some of the significant impacts for near-term and long-term improvements. However, there are some impacts that would remain significant and unavoidable, and those are also discussed in the above referenced Subsections.		impact analysis of the potential impacts of the near-term improvements, long-term improvements, and minor improvements as well as impacts that may result from future projects which would be similar to those discussed in this analysis. Physical improvements known at this time are analyzed in Subsections V.A.3, V.A.4, and V.A.5 of this EIR. As discussed in Subsection V.A.4, no significant impacts would result from implementation of the minor improvements. Mitigation measures have been identified in Subsections V.A.3 and V.A.5 that would address some of the significant impacts for near-term and long-term improvements. However, there are some impacts that would remain significant and unavoidable and those are also discussed in the above referenced sections.	
General Plan Amendments, Environmental Review, and Citywide Coordination Goals, Objectives and Action Items			
TR-A7.1: Incorporation of the Bicycle Plan into the *General Plan*, and amendment of sections of the Area Plans relevant to bicycling would accomplish the goals otherwise described in this Bicycle Plan. An indirect result of this action would, therefore, support the construction of improvements or	Traffic, Transit, and Loading	**M-TR-A7.1:** As described under the mitigation measures M-TR-A1.1 and M-TR-A1.2 above for potential significant impacts TR-A1.2 and TR-A 1.2 resulting from Actions A1.1 and A1.2, Mitigation Measures defined in Subsections V.A.3 and V.A.5 shall be implemented in association with improvements	SUI

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LTS = Less than Significant

TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
implementation of other changes presented as part of the Bicycle Plan and analyzed in Subsections V.A.3, V.A.4, and V.A.5 of this EIR. Some of these improvements would have a significant impact on the physical environment. The indirect impacts of these actions would include the significant impacts identified for the near-term and long-term improvements in Subsections V.A.3 and V.A.5 of this EIR, including potential worsening of traffic levels-of-service, potential slowing of transit movement in the City, and potential reduction of truck loading spaces. Some of these significant impacts have been determined to be significant and unavoidable.		proposed and implemented under the Bicycle Plan for potential indirect impacts resulting from Action 7.1.	
TR-A7.3: Collaboration between the SFMTA and Planning Department to coordinate updates to the *General Plan* in accord with subsequent updates and amendments to the Bicycle Plan and bicycle route network would accomplish the goals otherwise described in this Bicycle Plan. An indirect result of this action may be the construction of improvements or implementation of other changes similar to those presented as part of the Bicycle Plan and analyzed here with respect to potential impacts on traffic, transit, parking, pedestrians, bicycles, and loading in Subsection V.A.3, V.A.4, and V.A.5 of this EIR. Future improvements resulting from Action 7.3 may result in significant impacts on the physical environment similar to	Traffic, Transit, and Loading	**M-TR-A7.3:** As described under the mitigation measure M-TR-A1.4 above for potential significant impact TR-A1.4 resulting from Action A1.4, Mitigation Measures defined in Subsections V.A.3 and V.A.5 shall be implemented in association with improvements proposed and implemented under the Bicycle Plan for potential indirect impacts resulting from Action 7.3.	SUI

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LTS = Less than Significant

TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
those described in this report with respect to traffic, transit, and loading for the near-term and long-term improvements in Subsections V.A.3 and V.A.5 of this EIR, including potential worsening of traffic levels-of-service, potential slowing of transit movement in the City, and potential reduction of truck loading spaces. Some of these significant impacts have been determined to be significant and unavoidable. Therefore, there may be indirect significant impacts as a result of Action 7.3.			
TR-A7.4: The process to develop an Area Plan or update an existing Area Plan to reflect Bicycle Plan policies may indirectly result in the construction of bicycle facility improvements or implementation of other changes within an Area. These improvements could result in impacts similar to those summarized in Subsection V.A.3, V.A.4, and V.A.5 of this report with respect to potential impacts on traffic, transit, parking, pedestrians, bicycles, and loading. Some of these improvements may have a significant impact on the physical environment. The indirect impacts of these actions would include environmental impacts similar to the identified significant impacts that may result from implementation of the near-term and long-term improvements in Subsections V.A.3, and V.A.5 of this report, including potential worsening of traffic levels-of-service, potential slowing of transit movement in the City, and potential reduction of	Traffic, Transit, and Loading	**M-TR-A7.4:** As described under the mitigation measure M-TR-A1.4 for potential indirect impact TR-A1.4 resulting from Action A1.4, Mitigation Measures defined in Subsections V.A.3 and V.A.5 shall be implemented in association with improvements proposed and implemented under the Bicycle Plan to address potential indirect impacts resulting from Action 7.4.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
truck loading spaces. Mitigation measures have been identified to address some of these significant impacts. However, there are some for which no feasible mitigation measures have been identified. Therefore, there may be indirect significant impacts as a result of Action 7.4.			
Bicycle Funding Goals and Objectives			
TR-A8.1: Collaboration between the SFMTA and other agencies to identify funding to assist in achieving the Bicycle Plan goals and objectives would involve the exchange of information which would have no direct impact on the physical environment. However, success in identifying funding sources would result in implementation of projects to support the Bicycle Plan goals and objectives. This action would, therefore, support the construction of improvements or implementation of other changes presented as part of the Bicycle Plan and analyzed in Subsections V.A.3, V.A.4, and V.A.5 of this EIR; some of these improvements would have a significant impact on the physical environment as identified in the analysis, including potential worsening of traffic levels-of-service, potential slowing of transit movement in the City, and potential reduction of truck loading spaces.	Traffic, Transit and Loading	**M-TR-A8.1:** As described under the mitigation measures M-TR-A1.1 and M-TR-A1.2 above for potential significant impacts TR-A1.2 and TR-A 1.2 resulting from Actions A1.1 and A1.2, Mitigation Measures defined in Subsections V.A.3 and V.A.5 shall be implemented in association with improvements proposed and implemented under the Bicycle Plan to address potential indirect impacts resulting from Action 8.1.	SUI

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Unless other wise noted all Traffic Impacts refer to PM peak hour

LTS = Less than Significant

TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
SIGNIFICANT TRANSPORTATION IMPACTS OF NEAR-TERM IMPROVEMENT PROJECTS			
Cluster 1			
TR-P1-1a: As a result of the parking lane removal on the south side of Broadway between Franklin Street and Van Ness Avenue, school children loading activities in front of Saint Brigid School could continue to occur in the afternoon (before 4 p.m.), but passenger loading activities would have to be prohibited during the weekday AM peak period (7:00 a.m. to 9:00 a.m.) because of City of San Francisco *Transportation Code* Section 38N which prohibits blocking of a bicycle lane during peak periods. This prohibition would represent a significant impact on passenger loading for the students of Saint Brigid School under Existing plus Project conditions for the AM peak hour as a result of Project 1-1.	Passenger Loading	**M-TR-P1-1a:** An alternative school passenger drop-off location would have to be identified to accommodate passenger loading demand, such as expanding the existing passenger drop-off location along the east side of Franklin Street between Pacific Avenue and Broadway on the west side of the school building. Alternatively, the passenger drop off zone on Broadway could be maintained by eliminating the proposed eastbound bicycle lane between Franklin Street and Van Ness Avenue and having bicyclists share the curb lane with motor vehicles, similar to existing conditions. With the implementation of either of these mitigation measures, the significant impact on loading for the students of Saint Brigid School would be reduced to less than significant under Existing plus Project conditions for Project 1-1.	LTS
TR-P1-1b: Similar to that described above for Significant Impact TR-P1-1a, above, Project 1-1 would result in a significant impact to passenger loading for students of Saint Brigid School under 2025 Cumulative plus Project conditions as a result of Project 1-1.	Passenger Loading	**M-TR-P1-1b:** Refer to Mitigation Measure 1-1a, above for mitigation of this impact. With the implementation of either of these mitigation measures, the significant impact on loading for the students of Saint Brigid School would be reduced to less than significant under 2025 Cumulative plus Project conditions for Project 1-1.	LTS

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P1-1c: As a result of the elimination of one westbound travel lane on the north side of Broadway between Buchanan and Webster Streets, school children loading activities in front of Hamlin School would also be prohibited during the weekday AM peak period. This prohibition would represent a significant impact on passenger loading for the students of Hamlin School under Existing plus Project conditions.	Passenger Loading	**M-TR-P1-1c**: Extend the existing passenger loading zone on the north side of Broadway near Webster Street towards the east, all the way to Buchanan Street. The passenger zone extension would be located to the right of the proposed bicycle lane and would be operational during school arrival and dismissal periods only (typically from 7:00 to 8:30 a.m. and from 2:00 to 3:30 p.m.). This mitigation would reduce or eliminate incidents of double parking related to passenger loading and alleviate any associated congestion. With the implementation of this mitigation measure, the significant impact regarding loading for the students of Hamlin School would be reduced to less than significant under Existing plus Project conditions for Project 1-1.	LTS
TR-P1-1d: Similar to that described above for Significant Impact TR-P1-1c, above, Project 1-1 would result in a significant impact to passenger loading for students of the Hamlin School under 2025 Cumulative plus Project conditions as a result of Project 1-1.	Passenger Loading	**M-TR-P1-1d:** Refer to Mitigation Measure M-TR-P1-1c, above, for mitigation of this impact. With the implementation of this mitigation measure, the significant impact on loading for the students of Hamlin School would be reduced to less than significant under 2025 Cumulative plus Project conditions for Project 1-1.	LTS
TR-P1-3a: The three-way controlled intersection at Van Ness Avenue/North Point Street would operate at LOS E under 2025 Cumulative plus Project conditions for Project 1-3.	Traffic	**M-TR-P1-3a:** Per the California *Manual on Uniform Traffic Control Devices* (MUTCD), a signal warrant analysis was conducted to determine the feasibility of signalization of the Van Ness/North Point Street intersection. Signalization of the intersection would improve the intersection operations from LOS E to	LTS

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		LOS B, and therefore would result in no significant impacts under 2025 Cumulative conditions for Project 1-3.	
TR-P1-3b: Due to double-parked vehicles and the removal of general travel lanes, a significant loading impact may occur along North Point Street east of Columbus Avenue as a result of Project 1-3 under Existing plus Project conditions.	Loading	**M-TR-P1-3b:** No feasible mitigation measures have been identified to mitigate this loading impact. Therefore, a significant loading impact may occur along North Point Street east of Columbus Avenue with implementation of Project 1-3 under Existing plus Project conditions	SUI
TR-P1-3c: Due to double-parked vehicles and the removal of general travel lanes, a significant loading impact may occur along North Point Street east of Columbus Avenue as a result of Project 1-3 under 2025 Cumulative plus Project conditions.	Loading	**M-TR-P1-3c:** No feasible mitigation measures have been identified to mitigate this loading impact. Therefore, a significant loading impact may occur along North Point Street east of Columbus Avenue with implementation of Project 1-3 under 2025 Cumulative plus Project conditions.	SUI
Cluster 2			
TR-P2-1a: The intersection of 2nd Street/Bryant Street would operate at LOS F under Existing plus Project conditions for Project 2-1 Option 1.	Traffic	**M-TR-P2-1a:** No feasible mitigation measures have been identified for the 2nd Street/Bryant Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at this intersection with the implementation of Project 2-1 Option 1.	SUI
TR-P2-1b: The intersection of 2nd Street/Bryant Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 1.	Traffic	**M-TR-P2-1b:** No feasible mitigation measures have been identified for the 2nd Street/Bryant Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		would occur at this intersection with the implementation of Project 2-1.	
TR-P2-1c: The intersection of 2nd Street/Harrison Street would operate at LOS F under Existing plus Project conditions for Project 2-1 Option 1.	Traffic	**M-TR-P2-1c:** It is proposed that five seconds of green time be added to the northbound 2nd Street approach and five seconds of green time be reduced from the eastbound Harrison Street approach. This would improve the 2nd Street/Harrison Street intersection operations from LOS F to LOS E. Nevertheless, this mitigation measure would not reduce the project impacts to a less-than-significant level for Project 2-1 Option 1.	SUI
TR-P2-1d: The intersection of 2nd Street/Harrison Street would operate at LOS F under Existing plus Project conditions for Project 2-1 Option 2.	Traffic	**M-TR-P2-1d:** It is proposed that five seconds of green time be added to the northbound 2nd Street approach and five seconds of green time be reduced from the eastbound Harrison Street approach. This would improve the 2nd Street/Harrison Street intersection operations from LOS F to LOS E. Nevertheless, this mitigation measure would not reduce the project impacts to a less-than-significant level for Project 2-1 Option 2.	SUI
TR-P2-1e: The intersection of 2nd Street/Harrison Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 1.	Traffic	**M-TR-P2-1e:** It is proposed that five seconds of green time be added to the northbound 2nd Street approach and five seconds of green time be reduced from the eastbound Harrison Street approach, thus improving the 2nd Street/Harrison Street intersection operations and reducing average delay by 50.2 seconds. Nevertheless, this mitigation measure would not	SUI

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Unless other wise noted all Traffic Impacts refer to PM peak hour

LTS = Less than Significant

TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		reduce the project impacts to a less-than-significant level for Project 2-1 Option 1.	
TR-P2-1f: The intersection of 2nd Street/Harrison Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 2.	Traffic	**M-TR-P2-1f:** It is proposed that five seconds of green time be added to the northbound 2nd Street approach and five seconds of green time be reduced from the eastbound Harrison Street approach. This will improve the 2nd Street/Harrison Street intersection operations and reduce average delay. Nevertheless, this mitigation measure will not reduce the project impacts to a less-than-significant level for Project 2-1 Option 2.	SUI
TR-P2-1g: The intersection of 2nd Street/Folsom Street would operate at LOS E under Existing plus Project conditions for Project 2-1 Option 1.	Traffic	**M-TR-P2-1g:** The southbound 2nd Street approach shall be modified from a protected phase to a permitted phase with no changes to green time allocation. This will improve the 2nd Street/Folsom Street intersection operations from LOS E to LOS D, with 47.9 seconds of delay. Hence, this mitigation measure would reduce the project impacts of Project 2-1 Option 1 to a less-than-significant level.	LTS
TR-P2-1h: The intersection of 2nd Street/Folsom Street would operate at LOS E under Existing plus Project conditions for Project 2-1 Option 2.	Traffic	**M-TR-P2-1h:** The southbound 2nd Street approach shall be modified from a protected phase to a permitted phase with no changes to green time allocation. This will improve the 2nd Street/Folsom Street intersection operations from LOS E to LOS D, with 47.9 seconds of delay. Hence, this mitigation measure would reduce the project impacts of Project 2-1 Option 2 to a less-than-significant level.	LTS

SUI = Significant unavoidable Impact Unless other wise noted all Traffic Impacts refer to PM peak hour	LTS = Less than Significant

TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P2-1i: The intersection of 2nd Street/Folsom Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 1.	Traffic	**M-TR-P2-1i:** It is proposed that the southbound 2nd Street approach be modified from a protected phase to a permitted phase with no changes to green time allocation. This would improve the 2nd Street/Folsom Street intersection operations and reduce the average delay. Nevertheless, this mitigation measure would not reduce the project impacts to a less-than-significant level for Project 2-1 Option 1.	SUI
TR-P2-1j: The intersection of 2nd Street/Folsom Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 2.	Traffic	**M-TR-P2-1j:** It is proposed that the southbound 2nd Street approach be modified from a protected phase to a permitted phase with no changes to green time allocation. This would improve the 2nd Street/Folsom Street intersection operations and reduce the average delay. Nevertheless, this mitigation measure would not reduce the project impacts to a less-than-significant level for Project 2-1 Option 2.	SUI
TR-P2-1k: The intersection of 2nd Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 1.	Traffic	**M-TR-P2-1k:** No feasible mitigation measures have been identified for the 2nd Street/Howard Street intersection under 2025 Cumulative plus Project conditions. Hence, a significant traffic impact would occur at the 2nd Street/Howard Street intersection with the implementation of Project 2-1 Option 1.	SUI

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LTS = Less than Significant

TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P2-1l: The intersection of 2nd Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 2.	Traffic	**M-TR-P2-1l:** No feasible mitigation measures have been identified for the 2nd Street/Howard Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant traffic impact would occur at this intersection with the implementation of Project 2-1 Option 2.	SUI
TR-P2-1m (combined Projects 2-1 and 2-16): The intersection of 2nd Street/Townsend Street would operate at LOS E under 2025 Cumulative plus Project conditions for combined Projects 2-1 and 2-16 Option 1.	Traffic	**M-TR-P2-1m:** No feasible mitigation measures have been identified to mitigate for the 2nd Street/Townsend Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant traffic impact would occur at the 2nd Street/Townsend Street intersection with the implementation of combined Projects 2-1 and 2-16 Option 1.	SUI
TR-P2-1n(combined Projects 2-1 and 2-16): The intersection of 2nd Street/Townsend Street would operate at LOS E under 2025 Cumulative plus Project conditions for combined Projects 2-1 and 2-16 Option 2.	Traffic	**M-TR-P2-1n:** No feasible mitigation measures have been identified to mitigate the 2nd Street/Townsend Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the 2nd Street/Townsend Street intersection with the implementation of the combined Projects 2-1 and 2-16 Option 2.	SUI
TR-P2-1o (combined Projects 2-1 and 2-16): Muni bus line 10 would experience significant delays as a result of combined Projects 2-1 and 2-16 Option 1 under Existing plus Project conditions.	Transit	**M-TR-P2-1o:** The implementation of combined Projects 2-1 and 2-16 Option 1 under Existing plus Project conditions would add approximately 863 seconds (14.4 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street/Harrison Street, and 2nd Street/Folsom Street intersections (Mitigation Measures M-TR-P2-1c, M-TR-P2-1e, M-TR-P2-1f, M-TR-P2-1g, M-TR-P2-1h,	LTS

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		M-TR-P2-1i, and M-TR-P2-1j), approximately 27 seconds of delay southbound and 266 seconds (4.4 minutes) of delay northbound would be added to Muni bus line 10. The total added delay of 293 seconds (4.8 minutes) would be less than the transit delay threshold of six minutes. Therefore, impacts to Muni bus line 10 for combined Projects 2-1 and 2-16 Option 1 under Existing plus Project conditions would be reduced to a less-than-significant level.	
TR-P2-1p (combined Projects 2-1 and 2-16): Muni bus line 10 would experience significant delays as a result of combined Projects 2-1 and 2-16 Option 2 under Existing plus Project conditions.	Transit	**M-TR-P2-1p:** The implementation of combined Projects 2-1 and 2-16 Option 2 under Existing plus Project conditions would add approximately 524 seconds (8.7 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street/Harrison Street, and 2nd Street/Folsom Street intersections, approximately 58 seconds of delay southbound and 39 seconds of delay northbound would be added to Muni bus line 10. The total added delay of 97 seconds (1.6 minutes) would be less than the transit delay threshold of six minutes. Therefore, impacts to Muni bus line 10 for combined Projects 2-1 and 2-16 Option 2 under Existing plus Project conditions would be reduced to a less-than-significant level.	LTS
TR-P2-1q (combined Projects 2-1 and 2-16): Muni bus line 10 would experience significant delays as a result of combined Projects 2-1 and 2-16 Option 1 under 2025 Cumulative plus Project conditions.	Transit	**M-TR-P2-1q:** The implementation of combined Projects 2-1 and 2-16 Option 1, under 2025 Cumulative plus Project conditions, would add approximately 672 seconds (11.2 minutes) of delay for Muni bus line 10.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		With mitigation as described for the 2nd Street/Harrison Street, and 2nd Street/Folsom Street intersections, (M-TR-P2-1c, M-TR-P2-1e, M-TR-P2-1f, M-TR-P2-1g, M-TR-P2-1h, M-TR-P2-1i; and M-TR-P2-1j) delay would be reduced by approximately 169 seconds (2.8 minutes) southbound with approximately 625 seconds (10.4 minutes) of delay added northbound to Muni bus line 10. The total added delay of 495 seconds (7.6 minutes) would be greater than the transit delay threshold of six minutes. Therefore, a significant transit impact to Muni bus line 10 would occur resulting from combined Projects 2-1 and 2-16 Option 1 under 2025 Cumulative plus Project conditions	
TR-P2-1r (combined Projects 2-1 and 2-16): Muni bus line 10 would experience significant delays as a result of combined Projects 2-1 and 2-16 Option 2 under 2025 Cumulative plus Project conditions.	Transit	**M-TR-P2-1r:** The implementation of combined Projects 2-1 and 2-16 Option 2, under 2025 Cumulative plus Project conditions, would add approximately 857 seconds (14.2 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street/Harrison Street, and 2nd Street/Folsom Street intersections (Mitigation Measures M-TR-P2-1c, M-TR-P2-1e, M-TR-P2-1f, M-TR-P2-1g, M-TR-P2-1h, M-TR-P2-1i, and M-TR-P2-1j), approximately 238 seconds (3.9 minutes) of delay southbound and approximately 402 seconds (6.7 minutes) of delay northbound would be added to Muni bus line 10. The total added delay of 640 seconds (10.6 minutes) would be greater than the transit delay threshold of six minutes. Therefore, a significant transit impact to	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		Muni bus line 10 would occur resulting from combined Projects 2-1 and 2-16 Option 2 under 2025 Cumulative plus Project conditions.	
TR-P2-1s: A significant transit impact to Muni bus line 10 would occur as a result of individual Project 2-1 Option 1 under Existing plus Project conditions.	Transit	**M-TR-P2-1s:** The implementation of individual Project 2-1 Option 1 under Existing plus Project conditions would add approximately 845 seconds (14.1 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street/Harrison Street, and 2nd Street/Folsom Street intersections (Mitigation Measures M-TR-P2-1c, M-TR-P2-1e, M-TR-P2-1f, M-TR-P2-1g, M-TR-P2-1h, M-TR-P2-1i, and M-TR-P2-1j), approximately 27 seconds of delay southbound and 249 seconds (4.2 minutes) of delay northbound would be added to Muni bus line 10. The total added delay of 276 seconds (4.6 minutes) would be less than the transit delay threshold of six minutes. Therefore, impacts to Muni bus line 10 for individual Project 2-1 with Option 1 under Existing plus Project conditions would be reduced to a less-than-significant level.	LTS
TR-P2-1t: A significant transit impact to Muni bus line 10 would occur as a result of individual Project 2-1 Option 2 under Existing plus Project conditions.	Transit	**M-TR-P2-1t:** The implementation of individual Project 2-1 Option 2 under Existing plus Project conditions would add approximately 506 seconds (8.4 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street/Harrison Street, and 2nd Street/Folsom Street intersections (Mitigation Measures M-TR-P2-1c, M-TR-P2-1e, M-TR-P2-1f, M-TR-P2-1g, M-TR-P2-1h, M-TR-P2-1i, and M-TR-P2-1j), approximately 58 seconds of delay southbound and 21 seconds of delay northbound would be added to Muni	LTS

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		bus line 10. The total added delay of 79 seconds (1.3 minutes) would be less than the transit delay threshold of six minutes. Therefore, impacts to Muni bus line 10 for individual Project 2-1 with Option 2 under Existing plus Project conditions would be reduced to a less-than-significant level.	
TR-P2-1u: A significant transit impact would occur to Muni bus line 10 as a result of individual Project 2-1 Option 1 under 2025 Cumulative plus Project conditions.	Transit	**M-TR-P2-1u:** The implementation of individual Project 2-1 Option 1 under 2025 Cumulative plus Project conditions would add approximately 450 seconds (7.5 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street/Harrison Street, and 2nd Street/Folsom Street intersections, delay would be reduced by approximately 170 seconds (2.8 minutes) southbound with approximately 403 seconds (6.7 minutes) of delay added northbound to Muni bus line 10. The total added delay of 233 seconds (3.8 minutes) would be less than the transit delay threshold of six minutes. Therefore, impacts to Muni bus line 10 for individual Project 2-1 Option 1 under 2025 Cumulative plus Project conditions would be reduced to a less-than-significant level.	LTS
TR-P2-1v: A significant transit impact would occur to Muni bus line 10 as a result of individual Project 2-1 Option 2 under 2025 Cumulative plus Project conditions.	Transit	**M-TR-P2-1v:** The implementation of individual Project 2-1 Option 2 under 2025 Cumulative plus Project conditions would add approximately 857 seconds (14.2 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street/Harrison Street, and 2nd Street/Folsom Street intersections,	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		approximately 238 seconds (3.9 minutes) of delay southbound and approximately 402 seconds (6.7 minutes) of delay northbound would be added to Muni bus line 10. The total added delay of 640 seconds (10.6 minutes) would be greater than the transit delay threshold of six minutes. Therefore, a significant transit impact to Muni bus line 10 would occur resulting from individual Project 2-1 Option 2 under 2025 Cumulative plus Project conditions.	
TR-P2-1w: A significant impact on passenger loading would occur on the east side of 2nd Street between Clementina and Folsom Streets as a result of Project 2-1 Option 1 under Existing plus Project conditions.	Passenger Loading	**M-TR-P2-1w:** To provide passenger loading for the hotel, on-street parking on Clementina Street (the alley north of the hotel) could be converted to a white passenger zone. This would eliminate double parking activities in the bicycle and/or travel lanes in front of the hotel. Hence, this mitigation measure would reduce project impacts on passenger loading for Project 2-1 Option 1 under Existing plus Project conditions to a less-than significant level.	LTS
TR-P2-1x: A significant impact on passenger loading would occur on the east side of 2nd Street between Clementina and Folsom Streets as a result of Project 2-1 Option 2 under Existing plus Project conditions.	Passenger Loading	**M-TR-P2-1x:** To provide passenger loading for the hotel, on-street parking on Clementina Street (the alley north of the hotel) could be converted to a white passenger zone. This would eliminate double parking activities in the bicycle and/or travel lanes in front of the hotel. Hence, this mitigation measure would reduce project impacts on passenger loading for Project 2-1 Option 2 under Existing plus Project conditions to a less-than significant level.	LTS

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P2-1y: A significant impact on passenger loading would occur on the east side of 2nd Street between Clementina and Folsom Streets as a result of Project 2-1 Option 1 under 2025 Cumulative plus Project conditions.	Passenger Loading	**M-TR-P2-1y:** To provide passenger loading for the hotel, on-street parking on Clementina Street (the alley north of the hotel) could be converted to a white passenger zone. This would eliminate double parking activities in the bicycle and/or travel lanes in front of the hotel. Hence, this mitigation measure would reduce project impacts on passenger loading for Project 2-1 with Option 1 under 2025 Cumulative plus Project conditions to a less-than significant level.	LTS
TR-P2-1z: A significant impact on passenger loading would occur on the east side of 2nd Street between Clementina and Folsom Streets as a result of Project 2-1 Option 2 under 2025 Cumulative plus Project conditions.	Passenger Loading	**M-TR-P2-1z:** To provide passenger loading for the hotel, on-street parking on Clementina Street (the alley north of the hotel) could be converted to a white passenger zone. This would eliminate double parking activities in the bicycle and/or travel lanes in front of the hotel. Hence, this mitigation measure would reduce project impacts on passenger loading for Project 2-1 Option 2 under 2025 Cumulative plus Project conditions to a less-than significant level.	LTS
TR-P2-1aa: A significant impact on commercial freight loading would occur along 2nd Street between Market and Bryant Streets as a result of Project 2-1 Option 1 under Existing plus Project conditions.	Commercial Freight Loading	**M-TR-P2-1aa:** No feasible mitigation measures have been identified to mitigate this freight loading impact. Hence, a significant commercial freight loading impact would result along 2nd Street, between Market Street and Bryant Street, with implementation of Project 2-1 Option 1 under Existing plus Project conditions.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P2-1bb: A significant impact on commercial freight loading would occur along 2nd Street between Market and Bryant Streets as a result of Project 2-1 Option 2 under Existing plus Project conditions.	Commercial Freight Loading	**M-TR-P2-1bb:** No feasible mitigation measures have been identified to mitigate this freight loading impact. Hence, a significant commercial freight loading impact would result along 2nd Street, between Market Street and Bryant Street, with implementation of Project 2-1 Option 2 under Existing plus Project conditions.	SUI
TR-P2-1cc: A significant impact on commercial freight loading would occur along 2nd Street between Market and Bryant Streets as a result of Project 2-1 Option 1 under 2025 Cumulative plus Project conditions.	Commercial Freight Loading	**M-TR-P2-1cc:** No feasible mitigation measures have been identified to mitigate this freight loading impact. Hence, a significant commercial freight loading impact would result along 2nd Street, between Market Street and Bryant Street, with implementation of Project 2-1 Option 1 under 2025 Cumulative plus Project conditions.	SUI
TR-P2-1dd: A significant impact on commercial freight loading would occur along 2nd Street between Market and Bryant Streets as a result of Project 2-1 Option 2 under 2025 Cumulative plus Project conditions.	Commercial Freight Loading	**M-TR-P2-1dd:** No feasible mitigation measures have been identified to mitigate this freight loading impact. Hence, a significant commercial freight loading impact would result along 2nd Street, between Market Street and Bryant Street, with implementation of Project 2-1 Option 2 under 2025 Cumulative plus Project conditions.	SUI
TR-P2-2a: The intersection of 5th Street/Bryant Street would operate at LOS F under Existing plus Project conditions for Option 1 of Project 2-2.	Traffic	**M-TR2-P2-2a:** Three seconds of green time shall be added to the eastbound Bryant Street approach and three seconds of green time shall be reduced from the southbound 5th Street approach. This will improve the 5th Street/Bryant Street intersection operations from LOS F to LOS D. Hence, this mitigation measure	LTS

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		would reduce the impacts of Project 2-2 Option 1 to a less-than-significant level.	
TR-P2-2b: The intersection of 5th Street/Bryant Street would operate at LOS F under Existing plus Project conditions for Option 2 of Project 2-2.	Traffic	**M-TR2-P2-2b:** No feasible mitigation measures have been identified for the 5th Street/Bryant Street intersection under Existing plus Project conditions for Option 2. Hence, a significant impact would occur at the 5th Street/Bryant Street intersection with the implementation of Project 2-2 Option 2.	SUI
TR-P2-2c: The intersection of 5th Street/Bryant Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-2 Option 1.	Traffic	**M-TR-P2-2c:** No feasible mitigation measures have been identified for the 5th Street/Bryant Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the 5th Street/Bryant Street intersection with the implementation of Project 2-2 Option 1.	SUI
TR-P2-2d: The intersection of 5th Street/Bryant Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-2 Option 2.	Traffic	**M-TR-P2-2d:** No feasible mitigation measures have been identified for the 5th Street/Bryant Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the 5th Street/Bryant Street intersection with the implementation of Project 2-2. Option 2	SUI
TR-P2-2e: The intersection of 5th Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-2 Option 2.	Traffic	**M-TR-P2-2e:** No feasible mitigation measures have been identified for the 5th Street/Howard Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the 5th Street/Howard Street intersection with the implementation of Project 2-2.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P2-2f: The intersection of 5th Street/Brannan Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-2 Option 2.	Traffic	**M-TR-P2-2f:** No feasible mitigation measures have been identified for the 5th Street/Brannan Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the 5th Street/Brannan Street intersection with the implementation of Project 2-2 Option 2.	SUI
TR-P2-3a (Projects 2-3 and 2-11 combined): The intersection of Church Street/Market Street/14th Street would operate at LOS F under Existing plus Project conditions for Option 1 of combined Projects 2-3 and 2-11.	Traffic	**M-TR-P2-3a:** The phasing for the westbound Market Street approach shall be modified from a permitted phase to a protected phase. This would improve the intersection operations at the intersection of Church Street/Market Street/14th Street from LOS F to LOS D under Existing plus Project conditions. Hence, this mitigation measure would reduce the project impacts for Option 1 of combined Projects 2-3 and 2-11 to a less-than-significant level.	LTS
TR-P2-3b (Projects 2-3 and 2-11 combined): The intersection of Church Street/Market Street/14th Street would operate at LOS F under 2025 Cumulative plus Project conditions for combined **Projects 2-3 and 2-11** Option 1.	Traffic	**M-TR-P2-3b:** No feasible mitigation measures have been identified for the Church Street/Market Street/14th Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at this intersection with the implementation of Option 1 of combined Project 2-3 and 2-11.	SUI
TR-P2-4a (Projects 2-4 and 2-6 combined): The intersection of 10th Street/Brannan Street/Potrero Avenue/Division Street would operate at LOS F under Existing plus Project conditions for Option 1	Traffic	**M-TR-P2-4a:** No feasible mitigation measures have been identified for the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the 10th	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
of combined Projects 2-4 and 2-6.		Street/Brannan Street/Potrero Avenue/Division Street intersection with the implementation of Option 1 of Projects 2-4 and 2-6 combined.	
TR-P2-4b (Projects 2-4 and 2-6 combined): The intersection of 10th Street/Brannan Street/Potrero Avenue/Division Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1 of combined Projects 2-4 and 2-6.	Traffic	**M-TR-P2-4b:** No feasible mitigation measures have been identified for the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at this intersection with the implementation of Option 1 of combined Projects 2-4 and 2-6.	SUI
TR-P2-4c: The intersection of Potrero Avenue/16th Street would operate at LOS E under Existing plus Project conditions for Project 2-4 Option 2.	Traffic	**M-TR-P2-4c:** No feasible mitigation measures have been identified for the Potrero Avenue/16th Street intersection under Existing plus Project conditions for Option 2. Hence, a significant impact would occur at the Potrero Avenue/16th Street intersection with the implementation of Project 2-4 Option 2.	SUI
TR-P2-4d: Under 2025 Cumulative plus Project conditions for Project 2-4 Option 2, the Potrero Avenue/16th Street intersection would operate at LOS F, and a significant impact would occur at this intersection with the implementation of Project 2-4 Option 2.	Traffic	**M-TR-P2-4d:** No feasible mitigation measures have been identified for the Potrero Avenue/16th Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the Potrero Avenue/16th Street intersection with the implementation of Project 2-4 Option 2.	SUI
TR-P2-4e (Projects 2-4 and 2-6 combined): Muni bus line 9 would experience significant delays under 2025 Cumulative plus Project conditions for combined Projects 2-4 and 2-6 Option 2.	Transit	**M-TR-P2-4e:** No feasible mitigation measures have been identified for delay on Muni bus line 9 for combined Projects 2-4 and 2-6 Option 2 under 2025 Cumulative plus Project conditions. Hence, a	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		significant impact would occur for Muni bus line 9 with implementation of combined Projects 2-4 and 2-6 Option 2.	
TR-P2-4f (Projects 2-4 and 2-6 combined): SamTrans bus line 292 would experience significant delays under 2025 Cumulative plus Project conditions for combined Projects 2-4 and 2-6 Option 2.	Transit	**M-TR-P2-4f:** No feasible mitigation measures have been identified for delay on SamTrans bus line 292 for combined Projects 2-4 and 2-6 Option 2 under 2025 Cumulative plus Project conditions. Hence, a significant impact would occur for SamTrans bus line 292 with implementation of Projects 2-4 and 2-6 combined with Option 2.	SUI
TR-P2-4g: Muni bus line 9 would experience significant delays under 2025 Cumulative plus Project conditions for individual Project 2-4 Option 2.	Transit	**M-TR-P2-4g:** No feasible mitigation measures have been identified for delay on Muni bus line 9 for individual Project 2-4 Option 2 under 2025 Cumulative plus Project conditions. Hence, a significant impact would occur for Muni bus line 9 with implementation of Project 2-4 Option 2.	SUI
TR-P2-4h: SamTrans bus line 292 would experience significant delays under 2025 Cumulative plus Project conditions for individual Project 2-4 Option 2.	Transit	**M-TR-P2-4h:** No feasible mitigation measures have been identified for delay on SamTrans bus line 292 for Project 2-4 Option 2 under 2025 Cumulative plus Project conditions. Hence, a significant impact would occur for SamTrans bus line 292 with implementation of individual Project 2-4 Option 2.	SUI
TR-P2-6a: The intersection of 10th Street/Brannan Street/Potrero Avenue/Division Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-6 Option 1.	Traffic	**M-TR-P2-6a:** No feasible mitigation measures have been identified for the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection with the implementation of Project 2-6 Option 1.	
TR-P2-6b: The intersection of 11th Street/Bryant Street/Division Street would operate at LOS F under Existing plus Project conditions for Project 2-6 Option 1.	Traffic	**M-TR-P2-6b:** It is proposed that two seconds of green time be added to the northbound Bryant Street approach and two seconds of green time be reduced from the southbound 11th Street direction; and that 24 seconds of green time be added to the westbound Division Street direction and 24 seconds of green time be reduced from the eastbound 13th Street approach, in order to improve the intersection operations from LOS F to LOS D, with 54.9 seconds of delay. However, 54.9 seconds of delay is close to the threshold of 55 seconds of delay which is deemed unsatisfactory operation. Therefore, this mitigation measure would not reduce the project impacts of Project 2-6 Option 1 to a less-than-significant level for Existing plus Project conditions.	SUI
TR-P2-6c: The intersection of 11th Street / Bryant Street / Division Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-6 Option 1.	Traffic	**M-TR-P2-6c:** No feasible mitigation measures have been identified for the 11th Street/Bryant Street/Division Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at this intersection with the implementation of Project 2-6 Option 1.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P2-7a (Projects 2-7 and 2-9 combined): The intersection of Fremont Street/Howard Street would operate at LOS E under Existing plus Project conditions for combined Projects 2-7 and 2-9.	Traffic	**M-TR-P2-7a:** The cycle length at the Fremont Street/Howard Street intersection shall be increased by 35 seconds, so that the intersection will operate at LOS D with 54.9 seconds of delay. However, 54.9 seconds of delay is close to the threshold of 55 seconds of delay which is deemed unsatisfactory operation. Therefore, this mitigation measure would not reduce the project impacts of combined Projects 2-7 and 2-9 to a less-than-significant level for Existing plus Project conditions.	SUI
TR-P2-7b (Projects 2-7 and 2-9 combined): The intersection of Fremont Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for combined Projects 2-7 and 2-9.	Traffic	**M-TR-P2-7b:** The Fremont Street/Howard Street intersection operates at LOS D with 54.9 seconds of delay under Existing plus Project conditions relative to Existing conditions, with mitigation shown in Mitigation Measure M-TR-P2-7a. This is determined to be a significant impact since it is close to the threshold of 55 seconds of delay which is deemed unsatisfactory operation. As a consequence, a corresponding LOS deterioration is expected at this intersection for 2025 Cumulative plus Project compared to 2025 Cumulative conditions. Therefore, a significant impact would occur at the Fremont Street/Howard Street intersection.	SUI
TR-P2-9a: The Fremont Street/Howard Street intersection would operate unsatisfactorily at LOS E under Existing plus Project conditions for Project 2-9.	Traffic	**M-TR-P2-9a:** It is proposed that the cycle length at the Fremont Street/Howard Street intersection be increased by 35 seconds. With this improvement, the intersection will operate at LOS D with 54.9 seconds of delay. However, 54.9 seconds of delay is close to the	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		threshold of 55 seconds of delay which is deemed unsatisfactory operation. Therefore, this mitigation measure would not reduce the project impacts of Project 2-9 to a less-than-significant level for Existing plus Project conditions.	
TR-P2-9b: The intersection of Fremont Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-9.	Traffic	**M-TR-P2-9b:** It is proposed that lane configuration adjustments be made to the westbound Howard Street direction to improve LOS and reduce the delay at the Fremont Street/Howard Street intersection. The westbound Howard Street approach shall be modified from one through lane and one shared through-right turn lane, into two through lanes and one exclusive right-turn lane. The LOS will remain at level F. Therefore, this mitigation measure would not reduce the project impacts of Project 2-9 to a less-than-significant level for 2025 Cumulative plus Project conditions.	SUI
TR-P2-11a: The Church Street/Market Street/14th Street intersection would operate at LOS F under Existing plus Project conditions and a significant impact would occur at this intersection with the implementation of individual Project 2-11 Option 1.	Traffic	**M-TR-P2-11a:** No feasible mitigation measures have been identified for the Church Street/Market Street/14th Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the Church Street/Market Street/14th Street intersection with the implementation of Project 2-11 Option 1.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P2-11b: The intersection of Church Street/Market Street/14th Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-11 Option 1 for the PM peak hour.	Traffic	**M-TR-P2-11b:** No feasible mitigation measures have been identified for the Church Street/Market Street/14th Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Church Street/Market Street/14th Street intersection with the implementation of Project 2-11 Option 1.	SUI
TR-P2-11c: A significant impact to loading would result on the north side of Market Street near Noe Street from implementation of Project 2-11 Option 1 under Existing plus Project conditions.	Loading	**M-TR-P2-11c:** No feasible mitigation measures have been identified. Therefore, a significant loading impact would occur on Market Street near Noe Street with implementation of Project 2-11 Option 1 under Existing plus Project conditions.	SUI
TR-P2-11d: A significant impact to loading would result on the north side of Market Street near Noe Street from implementation of Project 2-11 Option 1 under 2025 Cumulative plus Project conditions.	Loading	**M-TR-P2-11d:** No feasible mitigation measures have been identified. Therefore, a significant loading impact would occur on Market Street near Noe Street with implementation of Project 2-11 Option 1 under 2025 Cumulative plus Project conditions.	SUI
TR-P2-16a: The 2nd Street/Townsend Street intersection would operate unsatisfactorily at LOS E under 2025 Cumulative plus Project conditions and a significant impact would occur at this intersection with the implementation of Project 2-16 Option 1.	Traffic	**M-TR-P2-16a:** No feasible mitigation measures have been identified for the 2nd Street/Townsend Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the 2nd Street/Townsend Street intersection with the implementation of Project 2-16 Option 1.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P2-16b: The 2nd Street/Townsend Street intersection would operate unsatisfactorily at LOS E under 2025 Cumulative plus Project conditions for Option 2 and a significant impact would occur at this intersection with the implementation of Project 2-16 Option 2.	Traffic	**M-TR-P2-16b:** No feasible mitigation measures have been identified for the 2nd Street/Townsend Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the 2nd Street/Townsend Street intersection with the implementation of Project 2-16 Option 2.	SUI
TR-P2-16c: The 7th Street/Townsend Street intersection would operate at LOS F under Existing plus Project conditions and a significant impact would occur at 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 1.	Traffic	**M-TR-P2-16c:** Six seconds of green time shall be added to the eastbound Townsend Street approach and six seconds of green time shall be reduced from the northbound 7th Street approach, to improve the 7th Street/Townsend Street intersection operations from LOS F to LOS D. Hence, this mitigation measure would reduce the project impacts of Project 2-16 Option 1 to a less-than-significant level.	LTS
TR-P2-16d: Under Existing plus Project conditions for Option 2, the 7th Street/Townsend Street intersection would operate at LOS F and a significant impact would occur at this intersection with the implementation of Project 2-16 Option 2.	Traffic	**M-TR-P2-16d:** Six seconds of green time shall be added to the eastbound Townsend Street approach and six seconds of green time shall be reduced from the northbound 7th Street approach, to improve the 7th Street/Townsend Street intersection operations from LOS F to LOS D. Hence, this mitigation measure would reduce the project impacts of Project 2-16 Option 2 to a less-than-significant level under Existing plus Project conditions.	LTS

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P2-16e: Under 2025 Cumulative plus Project conditions the 7th Street/Townsend Street intersection would operate at LOS F and, a significant impact would occur at this intersection with the implementation of Project 2-16 Option 1.	Traffic	**M-TR-2-16e:** It is proposed that lane configuration adjustments be made to the eastbound Townsend Street direction to improve LOS and decrease the amount of average delay. However, the LOS would remain at LOS F. Therefore, a significant impact would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 1 under 2025 Cumulative plus Project conditions.	SUI
TR-P2-16f: Under 2025 Cumulative plus Project conditions the 7th Street/Townsend Street intersection would operate at LOS F and a significant impact would occur at this intersection with the implementation of Project 2-16 Option 2.	Traffic	**M-TR-P2-16f:** It is proposed that lane configuration adjustments be made to the eastbound Townsend Street direction to improve LOS and decrease the amount of average delay. The LOS will remain at LOS F. Therefore, a significant impact would occur at 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 2 under 2025 Cumulative conditions.	SUI
TR-P2-16g: Under 2025 Cumulative plus Project conditions the 4th Street/Townsend Street intersection would operate at LOS F and a significant impact would occur at this intersection with the implementation of Project 2-16 Option 1.	Traffic	**M-TR-P2-16g:** The westbound Townsend Street approach shall be modified from a permitted phase to a protected signal phase. In addition, five seconds of green time shall be added to the westbound Townsend Street approach and five seconds of green time shall be reduced from the southbound 4th Street approach. This would improve the 4th Street/Townsend Street intersection operations from LOS F to LOS D. Hence, this mitigation measure would reduce the project impacts of Project 2-16 Option 1 to a less-than-	LTS

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		significant level for 2025 Cumulative plus Project conditions.	
TR-P2-16h: A significant transit impact would occur to Muni bus line 30 under Existing plus Project conditions for Project 2-16 Option 1.	Transit	**M-TR-P2-16h:** Feasibility of the following mitigation measures has not yet been determined. There is a range of potential treatments to address the issue at this intersection. One would be repositioning of the bus zone along the south side of Townsend Street. Another treatment would be reconfiguring the approach lanes to the intersection of 4th and Townsend Streets. Finally, installation of discontinuous bicycle lanes at the approach of the 4th Street/Townsend Street intersection could also be considered. Therefore, a significant transit impact would occur with implementation of Project 2-16 Option 1 under Existing plus Project conditions.	SUI
TR-P2-16i: A significant transit impact would occur to Muni bus line 45 under Existing plus Project conditions for Project 2-16 Option 1.	Transit	**M-TR-P2-16i:** Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, a significant transit impact would occur to Muni bus line 45 under Existing plus Project conditions for Project 2-16 Option 1.	SUI
TR-P2-16j: A significant transit impact would occur to Muni bus line 30 under Existing plus Project conditions for Project 2-16 Option 2.	Transit	**M-TR-P2-16j:** Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, a significant transit impact would occur to Muni bus line 30 under Existing plus Project conditions for Project 2-16 Option 2.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P2-16k: A significant transit impact would occur to Muni bus line 45 under Existing plus Project conditions for Project 2-16 Option 2.	Transit	**M-TR-P2-16k:** Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, a significant transit impact would occur to Muni bus line 45 under Existing plus Project conditions for Project 2-16 Option 2.	SUI
TR-P2-16l: A significant transit impact would occur to Muni bus line 30 under 2025 Cumulative plus Project conditions for Project 2-16 Option 1.	Transit	**M-TR-P2-16l:** Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, a significant transit impact would occur to Muni bus line 30 under 2025 Cumulative plus Project conditions for Project 2-16 Option 1.	SUI
TR-P2-16m: A significant transit impact would occur to Muni bus line 45 under 2025 Cumulative plus Project conditions for Project 2-16 Option 1.	Transit	**M-TR-P2-16m:** Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, a significant transit impact would occur to Muni bus line 45 under 2025 Cumulative plus Project conditions for Project 2-16 Option 1.	SUI
TR-P2-16n: A significant transit impact would occur to Muni bus line 30 under 2025 Cumulative plus Project conditions for Project 2-16 Option 2.	Transit	**M-TR-P2-16n:** Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, significant transit impact would occur to Muni bus line 30 under 2025 Cumulative plus Project conditions for Project 2-16 Option 2.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P2-16o: A significant transit impact would occur to Muni bus line 45 under 2025 Cumulative plus Project conditions for Project 2-16 Option 2.	Transit	**M-TR-P2-16o:** Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, a significant transit impact would occur to Muni bus line 45 under 2025 Cumulative plus Project conditions for Project 2-16 Option 2.	SUI
Cluster 3			
TR-P3-1a (Projects 3-1 and 3-2 combined): The intersection of Masonic Avenue/Fell Street would operate at LOS E under Existing plus Project conditions for Option 1 of Projects 3-1 and 3-2 combined.	Traffic	**M-TR-P3-1a:** Four seconds of green time shall be added to the northbound and southbound directions of Masonic Avenue and four seconds of green time shall be reduced from the westbound Fell Street direction. With these adjustments, Masonic Avenue/Fell Street intersection operations would improve to LOS D. Hence, this mitigation measure would reduce impacts from combined Project 3-1 and 3-2 Option 1 to a less-than-significant level under Existing plus Project conditions.	LTS
TR-P3-1b (Projects 3-1 and 3-2 combined): The intersection of Masonic Avenue/Fell Street would operate at LOS E under 2025 Cumulative plus Project conditions for combined Projects 3-1 and 3-2 Option 1.	Traffic	**M-TR-P3-1b:** No feasible mitigation measures have been identified for the Masonic Avenue/Fell Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Masonic Avenue/Fell Street intersection with the implementation of combined Projects 3-1 and 3-2 Option 1.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P3-2a: Under 2025 Cumulative plus Project conditions the Masonic Avenue/Turk Street intersection would operate at LOS F in the AM Peak hour and a significant impact would occur at the Masonic Avenue/Turk Street intersection with the implementation of Project 3-2 Option 1.	Traffic	**M-TR-P3-2a:** No feasible mitigation measures have been identified for the Masonic Avenue/Turk Street intersection under 2025 Cumulative plus Project conditions for Project 3-2 Option 1. Hence, a significant impact would occur at the Masonic Avenue/Turk Street intersection in the AM Peak hour with the implementation of Project 3-2 Option 1.	SUI
TR-P3-2b: Under 2025 Cumulative plus Project conditions the Masonic Avenue/Turk Street intersection would operate at LOS F in the AM Peak hour and a significant impact would occur at this intersection with the implementation of Project 3-2 Option 2.	Traffic	**M-TR-P3-2b:** No feasible mitigation measures have been identified for the Masonic Avenue/Turk Street intersection under 2025 Cumulative plus Project conditions in the AM peak hour for Project 3-2 Option 2. Hence, a significant impact would occur at the Masonic Avenue/Turk Street intersection with the implementation of Project 3-2 Option 2.	SUI
TR-P3-2c: Under 2025 Cumulative plus Project conditions for the AM peak hour the Masonic Avenue/Fulton Street intersection would operate at LOS F and a significant impact would occur at the Masonic Avenue/Fulton Street intersection with the implementation of Project 3-2 Option 1.	Traffic	**M-TR-P3-2c:** No feasible mitigation measures have been identified for the Masonic Avenue/Fulton Street intersection under 2025 Cumulative plus Project conditions for the AM Peak hour. Hence, a significant impact would occur at the Masonic Avenue/Fulton Street intersection with the implementation of Project 3-2 Option 1.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P3-2d: Under 2025 Cumulative plus Project conditions for Option 2, the Masonic Avenue/Fulton Street intersection would operate at LOS F in the AM Peak hour and a significant impact would occur at the Masonic Avenue/Fulton Street intersection with the implementation of Project 3-2 Option 2.	Traffic	**M-TR-P3-2d:** No feasible mitigation measures have been identified for the Masonic Avenue/Fulton Street intersection under 2025 Cumulative plus Project conditions the AM Peak hour. Hence, a significant impact would occur at the Masonic Avenue/Fulton Street intersection with the implementation of Project 3-2 Option 2.	SUI
TR-P3-2e: Under Existing plus Project conditions the Masonic Avenue/Fell Street intersection would operate at LOS E and a significant impact would occur at the Masonic Avenue/Fell Street intersection with the implementation of Project 3-2 Option 1.	Traffic	**M-TR-P3-2e**: No feasible mitigation measures have been identified for the Masonic Avenue/Fell Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the Masonic Avenue/Fell Street intersection with the implementation of Project 3-2 Option 1.	SUI
TR-P3-2f: Under Existing plus Project conditions the Masonic Avenue/Fell Street intersection would operate at LOS E and a significant impact would occur at the Masonic Avenue/Fell Street intersection with the implementation of Project 3-2 Option 2.	Traffic	**M-TR-P3-2f**: Four seconds of green time shall be added to the northbound and southbound Masonic Avenue directions, with a corresponding reduction in green time in the westbound Fell Street direction of four seconds. With these adjustments, the Masonic Avenue/Fell Street intersection operations would improve to LOS D. Hence, this mitigation measure would reduce the project impacts to a less-than-significant level for Project 3-2 with Option 2 under Existing plus Project conditions.	LTS

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P3-2g: Under 2025 Cumulative plus Project conditions the Masonic Avenue/Fell Street intersection would operate at LOS F and a significant impact would occur at the Masonic Avenue/Fell Street intersection with the implementation of Project 3-2 Option 1.	Traffic	**M-TR-P3-2g:** No feasible mitigation measures have been identified for the Masonic Avenue/Fell Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Masonic Avenue/Fell Street intersection with the implementation of Project 3-2 Option 1 under 2025 Cumulative plus Project conditions.	SUI
TR-P3-2h: Under 2025 Cumulative plus Project conditions the Masonic Avenue/Fell Street intersection would operate at LOS E and a significant impact would occur at the Masonic Avenue/Fell Street intersection with the implementation of Project 3-2 Option 2.	Traffic	**M-TR-P3-2h:** No feasible mitigation measures have been identified for the Masonic Avenue/Fell Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the Masonic Avenue/Fell Street intersection with the implementation of Project 3-2 Option 2.	SUI
TR-P3-2i: Under 2025 Cumulative plus Project conditions the Masonic Avenue/Geary Boulevard intersection would operate at LOS E and a significant impact would occur at the Masonic Avenue/Geary Boulevard intersection with the implementation of Project 3-2 Option 1.	Traffic	**M-TR-P3-2i:** No feasible mitigation measures have been identified for Option 1 under 2025 Cumulative plus Project conditions. Hence, a significant impact would occur at the Masonic Avenue/Geary Boulevard intersection with the implementation of Project 3-2 Option 1.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P3-2j: Under 2025 Cumulative plus Project conditions the Masonic Avenue/Turk Street intersection would operate at LOS F and a significant impact would occur at the Masonic Avenue/Turk Street intersection with the implementation of Project 3-2 Option 1.	Traffic	**M-TR-P3-2j:** It is proposed that ten seconds of green time be added to the northbound Masonic Avenue direction, with a corresponding reduction of green time in the eastbound Turk Street direction of ten seconds, to improve intersection operations to LOS E. However, the Masonic Avenue/Turk Street intersection would continue to operate at an unacceptable LOS; therefore, the traffic impact would remain significant even after this mitigation measure is implemented for Project 3-2 Option 1.	SUI
TR-P3-2k (Projects 3-1 and 3-2 combined): Under Existing plus Project conditions combined Projects 3-1 and 3-2 Option 1 would result in a significant transit impact for Muni bus line 43 in the PM peak hour.	Transit	**M-TR-P3-2k:** No feasible mitigation measures have been identified to reduce the delay on Muni bus line 43 under Existing plus Project conditions for Option 1. Therefore, a significant transit impact would occur to Muni bus line 43 as a result of combined Projects 3-1 and 3-2 Option 1 under Existing plus Project conditions in the PM peak hour.	SUI
TR-P3-2l_(Projects 3-1 and 3-2 combined): Under 2025 Cumulative plus Project conditions, combined Projects 3-1 and 3-2 Option 1 would result in a significant transit impact for Muni bus line 43 in the PM peak hour.	Transit	**M-TR-P3-2l:** No feasible mitigation measures have been identified and a significant transit impact would occur to Muni bus line 43 as a result of combined Projects 3-1 and 3-2 Option 1 under 2025 Cumulative plus Project conditions in the PM peak hour.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P3-2m: Under Existing plus Project conditions individual Project 3-2 Option 1 would result in a significant transit impact for Muni bus line 43 in the PM peak hour.	Transit	**M-TR-P3-2m:** No feasible mitigation measures have been identified for Option 1 under Existing plus Project conditions in the PM peak hour. Therefore, a significant transit impact would occur to Muni bus line 43 as a result of individual Project 3-2 Option 1 under Existing plus Project conditions in the PM peak hour.	SUI
TR-P3-2n: Under 2025 Cumulative plus Project conditions, individual Project 3-2 Option 1 would result in a significant impact to transit for Muni bus line 43 in the PM peak hour.	Transit	**M-TR-P3-2n:** No feasible mitigation measures have been identified and a significant transit impact would occur to Muni bus line 43 as a result of individual Project 3-2 Option 1 under 2025 Cumulative plus Project conditions in the PM peak hour.	SUI
Cluster 4			
None identified.			
Cluster 5			
TR-P5-4a: Under Existing plus Project conditions the Bayshore Boulevard/Jerrold Boulevard/US 101 Off-Ramp intersection would operate at LOS F in the AM Peak hour and a significant impact would occur at this intersection with the implementation of Project 5-4 Option 1.	Traffic	**M-TR-P5-4a:** No feasible mitigation measures have been identified for the Bayshore Boulevard/Jerrold Boulevard/US 101 Off-Ramp intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the Bayshore Boulevard/Jerrold Boulevard/US 101 Off-Ramp intersection with the implementation of Project 5-4 Option 1.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P5-4b: Under 2025 Cumulative plus Project conditions the Bayshore Boulevard/Jerrold Boulevard/US 101 Off-Ramp intersection would operate at LOS F in the AM Peak hour with a delay of more than 80 seconds. As a result a significant impact would occur at this intersection with the implementation of Project 5-4 Option 1.	Traffic	**M-TR-P5-4b:** No feasible mitigation measures have been identified for the Bayshore Boulevard/Jerrold Boulevard/US 101 Off-Ramp intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Bayshore Boulevard/Jerrold Boulevard/US 101 Off-Ramp intersection with the implementation of Project 5-4 Option 1.	SUI
TR-P5-4c: Under Existing plus Project conditions the Bayshore Boulevard/Jerrold Boulevard/US 101 Off-Ramp intersection would operate at LOS F and a significant impact would occur at this intersection with the implementation of Project 5-4 Option 1.	Traffic	**TR-P5-4c:** No feasible mitigation measures have been identified for the Bayshore Boulevard/Jerrold Boulevard/US 101 Off-Ramp intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the Bayshore Boulevard/Jerrold Boulevard/US 101 Off-Ramp intersection with the implementation of Project 5-4 Option 1.	SUI
TR-P5-4d: Under 2025 Cumulative plus Project conditions the Bayshore Boulevard/Jerrold Boulevard/US 101 Off-Ramp intersection would operate at LOS and a significant impact would occur at this intersection with the implementation of Project 5-4 Option 1.	Traffic	**TR-P5-4d:** No feasible mitigation measures have been identified for the Bayshore Boulevard/Jerrold Boulevard/US 101 Off-Ramp intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Bayshore Boulevard/Jerrold Boulevard/US 101 Off-Ramp intersection with the implementation of Project 5-4 Option 1.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P5-4e: Under 2025 Cumulative plus Project conditions the Bayshore Boulevard/Oakdale Avenue intersection would operate at LOS E, and therefore a significant impact would occur at this intersection with the implementation of Project 5-4 Option 1.	Traffic	**M-TR-P5-4e:** Five seconds of green time shall be added to the northbound Bayshore Boulevard approach and five seconds of green time shall be reduced from the westbound Oakdale Avenue approach. This would improve the intersection operations from LOS E to LOS D, Thus, this mitigation measure would reduce the impacts of Project 5-4 Option 1 on the Bayshore Boulevard/Oakdale Avenue intersection to a less-than-significant level.	LTS
TR-P5-4f (Projects 5-2 and 5-4 combined): Muni bus lines 9, 9X, 9AX and SamTrans 292 would experience significant delays under 2025 Cumulative plus Project conditions for combined Projects 5-2 and 5-4 Option 1.	Transit	**M-TR-P5-4f:** Under 2025 Cumulative plus Project conditions combined Projects 5-2 and 5-4 Option 1 would add approximately 417 seconds (7.0 minutes) of total delay for Muni bus lines 9, 9X, 9AX and SamTrans 292. With Mitigation Measure M-TR-P5-4e described above, transit delay would be reduced to a less than significant level. Therefore, impacts to transit for Muni bus lines 9, 9X, 9AX and SamTrans 292 for combined Projects 5-2 and 5-4 Option 1 under 2025 Cumulative plus Project conditions would be reduced to a less-than-significant level.	LTS
TR-P5-4g: Muni bus lines 9, 9X, 9AX and SamTrans 292 would experience significant delays under 2025 Cumulative plus Project conditions for Project 5-4 Option 1.	Transit	**M-TR-P5-4g:** Under 2025 Cumulative plus Project conditions for individual Project 5-4 Option 1 Muni bus lines 9, 9X, 9AX and SamTrans 292 would experience significant delays. With Mitigation Measure M-TR-P5-4e described above, transit delay would be reduced to a less than significant level, Therefore, impacts to transit for Muni bus lines 9, 9X, 9AX and SamTrans 292 for Project 5-4 Option 1 under	LTS

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		2025 Cumulative plus Project conditions would be reduced to a less-than-significant level.	
TR-P5-4h: A significant loading impact would occur on Bayshore Boulevard between Cesar Chavez and Industrial Streets as a result of Project 5-4 Option 2 under Existing plus Project conditions.	Loading	**M-TR-P5-4h:** No feasible mitigation measures have been identified. Therefore, a significant loading impact would occur on Bayshore Boulevard between Cesar Chavez and Industrial Streets with implementation of Project 5-4 Option 2 under Existing plus Project conditions.	SUI
TR-P5-4i: A significant loading impact would occur on Bayshore Boulevard between Cesar Chavez and Industrial Streets as a result of Project 5-4 Option 2 under 2025 Cumulative plus Project conditions.	Loading	**M-TR-P5-4i:** No feasible mitigation measures have been identified. Therefore, a significant loading impact would occur on Bayshore Boulevard between Cesar Chavez and Industrial Streets with implementation of Project 5-4 Option 2 under 2025 Cumulative plus Project conditions.	SUI
TR-P5-5a: Under Existing plus Project conditions the Evans Avenue/Cesar Chavez Street intersection would operate at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of Project 5-5 Option 1.	Traffic	**M-TR-P5-5a:** No feasible mitigation measures have been identified for the Evans Avenue/Cesar Chavez Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the Evans Avenue/Cesar Chavez Street intersection with the implementation of Project 5-5 Option 1 under Existing plus Project conditions.	SUI
TR-P5-5b: Under 2025 Cumulative plus Project conditions the Evans Avenue/Cesar Chavez Street intersection would operate at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of Project 5-5 Option 1.	Traffic	**TR-P5-5b** No feasible mitigation measures have been identified for the Evans Avenue/Cesar Chavez Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Evans Avenue/Cesar Chavez Street intersection with the implementation of Project 5-5	SUI

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LTS = Less than Significant

TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		Option 1 under 2025 Cumulative plus Project conditions.	
TR-P5-6a: Under 2025 Cumulative plus Project conditions the Mission Street/Cesar Chavez Street intersection would operate at LOS F in the AM Peak hour, and therefore, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 1.	Traffic	**M-TR-P5-6a:** Lane configuration adjustments to the eastbound and westbound directions on Cesar Chavez Street would improve LOS and reduce the delay at the Mission Street/Cesar Chavez Street intersection from LOS F to LOS E. The removal of on-street parking along Cesar Chavez Street (applying either Option 1 or 2 of proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q for which feasibility has not yet been determined) is proposed which would provide an additional through lane along the eastbound and westbound Cesar Chavez Street approaches. However, because of the uncertainty regarding the feasibility of this mitigation measure, a significant impact may occur at the Mission Street/Cesar Chavez Street intersection in the AM Peak hour with the implementation of Project 5-6 Option 1.	SUI
TR-P5-6b: The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS E in the AM Peak hour under 2025 Cumulative plus Project conditions for Project 5-6 Option 2. Therefore, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with implementation of Project 5-6 Option 2.	Traffic	**M-TR-P5-6b:** Lane configuration adjustments to the eastbound and westbound directions on Cesar Chavez Street would improve LOS and reduce the delay at this intersection. The removal of on-street parking along Cesar Chavez Street (applying either Option 1 or 2 of proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q for which feasibility has not yet been determined) is proposed which would provide an additional through lane along the eastbound and westbound Cesar Chavez Street approaches. However, because of the uncertainty regarding the feasibility of this mitigation measure, a significant impact would occur at this intersection with the implementation of Project 5-6 Option 2.	
TR-P5-6c: Under Existing plus Project conditions the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F in the AM Peak hour, and therefore, a significant impact may occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 1.	Traffic	**M-TR-P5-6c:** Lane configuration adjustments to the westbound direction on Cesar Chavez Street would improve LOS and reduce the delay for this intersection. The removal of on-street parking along Cesar Chavez Street (applying either Option 1 or 2 of proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q for which feasibility has not yet been determined) is proposed which would provide an additional through lane along the westbound Cesar Chavez Street approach. However, because of the uncertainty regarding the feasibility of this mitigation measure, a significant impact may occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 1.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P5-6d: Under Existing plus Project conditions the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F, and therefore, a significant impact would occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 2,.	Traffic	**M-TR-P5-6d:** No feasible mitigation measures have been identified for the Guerrero Street/Cesar Chavez Street intersection under Existing plus Project conditions for Option 2. Hence, a significant impact would occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 2.	SUI
TR-P5-6e: Under 2025 Cumulative plus Project conditions the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F, and therefore, a significant impact would occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 1.	Traffic	**M-TR-P5-6e:** Lane configuration adjustments to the westbound direction of Cesar Chavez Street would improve LOS and reduce the delay at the Guerrero Street/Cesar Chavez Street intersection. The removal of on-street parking along Cesar Chavez Street (applying either Option 1 or 2 of proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q for which feasibility has not yet been determined) is proposed which would provide an additional through lane along the westbound Cesar Chavez Street approach. Nevertheless, this mitigation measure would not reduce the project impacts to a less-than-significant level for Project 5-6 Option 1.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P5-6f: Under 2025 Cumulative plus Project conditions the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of Project 5-6 Option 2.	Traffic	**M-TR-P5-6f:** No feasible mitigation measures have been identified for the Guerrero Street/Cesar Chavez Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 2.	SUI
TR-P5-6g: Under Existing plus Project conditions the Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of Project 5-6 Option 1.	Traffic	**M-TR-P5-6g:** No feasible mitigation measures have been identified for the Mission Street/Cesar Chavez Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6. Option 1	SUI
TR-P5-6h: Under Existing plus Project conditions for Option 2 the Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS E, and therefore, a significant impact may occur at this intersection with the implementation of Project 5-6 Option 2.	Traffic	**M-TR-P5-6h:** It is proposed that lane configuration adjustments be made to the eastbound and westbound directions on Cesar Chavez Street, to improve LOS and reduce the delay at the Mission Street/Cesar Chavez Street intersection. It is further proposed that on-street parking be removed (applying either Option 1 or 2 of proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q for which feasibility has not yet been determined) along Cesar Chavez Street in the eastbound and westbound directions which would provide an additional through lane in both directions.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		These lane adjustments would decrease the delay and improve LOS from E to D. However, because of the uncertainty of the feasibility of this mitigation measure, a significant impact may occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 2. In addition, bicycle lane discontinuity could occur at this location.	
TR-P5-6i: Under 2025 Cumulative plus Project conditions for Option 1, the Mission Street/Cesar Chavez Street intersection would operate at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of Project 5-6 Option 1.	Traffic	**M-TR-P5-6i:** No feasible mitigation measures have been identified for the Mission Street/Cesar Chavez Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 1.	SUI
TR-P5-6j: Under 2025 Cumulative plus Project conditions for Option 2, the Mission Street/Cesar Chavez Street intersection would operate at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of Project 5-6 Option 2.	Traffic	**M-TR-P5-6j:** Lane configuration adjustments to the eastbound and westbound directions on Cesar Chavez Street would improve LOS and reduce the delay at the Mission Street/Cesar Chavez Street intersection. It is proposed that on-street parking be removed (applying either Option 1 or 2 of proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q for which feasibility has not yet been determined) along Cesar Chavez Street in the eastbound and westbound directions which would provide an additional through lane in both directions. These lane adjustments would	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		decrease the delay and improve LOS from F to E. However, because of the uncertainty of the feasibility of this mitigation measure, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 2.	
TR-P5-6k: Under Existing plus Project conditions for Option 1, the South Van Ness Avenue/Cesar Chavez Street intersection would operate at LOS F, and therefore, a significant impact may occur at this intersection with the implementation of Project 5-6 Option 1.	Traffic	**M-TR-P5-6k:** Lane configuration adjustments to the eastbound and westbound directions on Cesar Chavez Street would improve LOS and reduce the delay at this intersection. It is proposed that on-street parking along Cesar Chavez Street be removed (applying either Option 1 or 2 of proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q for which feasibility has not yet been determined) in both the eastbound and westbound directions on Cesar Chavez Street which would provide an additional through lane along both approaches. These lane adjustments would decrease the delay and improve LOS from F to D. However, because of the uncertainty regarding the feasibility of this mitigation measure, a significant impact may occur at South Van Ness Avenue/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 1.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P5-6l: Under Existing plus Project conditions for Option 2, the South Van Ness Avenue/Cesar Chavez Street intersection would operate at LOS E, and therefore, a significant impact may occur at the South Van Ness Avenue/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 2.	Traffic	**M-TR-P5-6l:** Lane configuration adjustments to the westbound direction on Cesar Chavez Street would improve LOS and reduce the delay at this intersection. It is proposed that on-street parking along Cesar Chavez Street be removed (applying either Option 1 or 2 of proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P 5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q for which feasibility has not yet been determined) in the westbound direction on Cesar Chavez Street which would provide an additional through lane along this approach. This lane adjustment would decrease the delay and improve LOS from E to D. However, because of the uncertainty regarding the feasibility of this mitigation measure, a significant impact may occur at this intersection with the implementation of Project 5-6 Option 2.	SUI
TR-P5-6m: Under 2025 Cumulative plus Project conditions for Option 1, the Cesar Chavez Street/South Van Ness Avenue intersection would operate at LOS F, and therefore, a significant impact would occur at the South Van Ness Avenue/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 1.	Traffic	**M-TR-P5-6m:** Lane configuration adjustments to the eastbound and westbound directions on Cesar Chavez Street would improve LOS and reduce the delay at the Cesar Chavez Street/South Van Ness Avenue intersection. It is proposed that on-street parking along Cesar Chavez Street be removed (applying either Option 1 or 2 of proposed possible Mitigation Measures M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q for which	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		feasibility has not yet been determined) in both the eastbound and westbound directions on Cesar Chavez Street which would provide an additional through lane along both approaches. Nevertheless, this mitigation measure would not reduce Project 5-6 Option 1 impacts to a less-than-significant level.	
TR-P5-6n: Under 2025 Cumulative plus Project conditions for Option 2, the South Van Ness Avenue/Cesar Chavez Street intersection would operate at LOS F, and therefore, a significant impact would occur at the South Van Ness Avenue/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 2.	Traffic	**M-TR-P5-6n:** No feasible mitigation measures have been identified for the South Van Ness Avenue/Cesar Chavez Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the South Van Ness Avenue/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 2.	SUI
TR-P5-6o: Under Existing plus Project conditions for Option 1, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F, and therefore, a significant impact may occur at this intersection with the implementation of Project 5-6 Option 1.	Traffic	**M-TR-P6-5o:** Lane configuration adjustments to the eastbound direction and westbound directions on Cesar Chavez Street would improve LOS and reduce the delay at the Bryant Street/Cesar Chavez Street intersection. It is proposed that on-street parking be removed (applying either Option 1 or 2 of proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q for which feasibility has not yet been determined) along Cesar Chavez Street along the eastbound and westbound directions which would provide an additional through lane in both directions. However, because of the uncertainty regarding the	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		feasibility of this mitigation measure, a significant impact may occur at the Bryant Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 1.	
TR-P5-6p: Under Existing plus Project conditions for Option 2, the Bryant Street/Cesar Chavez Street intersection would operate at LOS E, and therefore, a significant impact would occur at the Bryant Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 2.	Traffic	**M-TR-P5-6p:** No feasible mitigation measures have been identified for the Bryant Street/Cesar Chavez Street intersection under Existing plus Project conditions for Option 2. Hence, a significant impact would occur at the Bryant Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 2.	SUI
TR-P5-6q: Under 2025 Cumulative plus Project conditions for Option 1, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of Project 5-6 Option 1.	Traffic	**M-TR-P5-6q:** Lane configuration adjustments to the eastbound and westbound directions on Cesar Chavez Street would improve LOS and reduce the delay at this intersection. It is proposed that on-street parking be removed (applying either Option 1 or 2 of proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q for which feasibility has not yet been determined) along Cesar Chavez Street in the eastbound and westbound directions which would provide an additional through lane along both approaches. Nevertheless, this mitigation measure would not reduce the impacts of Project 5-6 Option 1 to a less-than-significant level.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P5-6r: Under 2025 Cumulative plus Project conditions for Option 2, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of Project 5-6 Option 2.	Traffic	**M-TR-P5-6r:** No feasible mitigation measures have been identified for the Bryant Street/Cesar Chavez Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the Bryant Street/Cesar Chavez Street intersection with the implementation of Project 5-6 Option 2.	SUI
TR-P5-6s: Muni bus line 12 would experience significant delays under Existing plus Project conditions for Project 5-6 Option 1.	Transit	**M-TR-P5-6s:** The implementation of Option 1 under Existing plus Project conditions would add 474 seconds (7.9 minutes) of total delay for Muni bus line 12 westbound. With mitigation as described in proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q above, this delay would be reduced. This would reduce total delay below the transit delay threshold of six minutes. However, because of the uncertainty regarding the feasibility of this mitigation measure, a significant transit impact would occur for Muni bus line 12 for Project 5-6 Option 1 under Existing plus Project conditions.	SUI
TR-P5-6t: Muni bus line 27 would experience significant delays under Existing plus Project conditions for Project 5-6 Option 1.	Transit	**M-TR-P5-6t:** The implementation of Option 1 under Existing plus Project conditions would add 867 seconds (14.5 minutes) of total delay for Muni bus line 27. With mitigation as described in proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e,	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q above, delay in the westbound direction would be reduced. Total transit delay would be below the transit delay threshold of six minutes. However, because of the uncertainty of the feasibility of this mitigation measure, a significant impact would occur to Muni bus line 27 for Project 5-6 Option 1 under Existing plus Project conditions.	
TR-P5-6u: Muni bus line 12 would experience significant delays under 2025 Cumulative plus Project conditions for Project 5-6 Option 1.	Transit	**M-TR-P5-6u:** The implementation of Option 1 under 2025 Cumulative plus Project conditions would add approximately 1,487 seconds (24.7 minutes) of total delay for Muni bus line 12 westbound. With mitigation as described in proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6qabove, this delay would not change. Therefore, a significant transit impact to Muni bus line 12 would occur with implementation of Project 5-6 Option 1 under 2025 Cumulative plus Project conditions.	SUI
TR-P5-6v: Muni bus line 27 would experience significant delays under 2025 Cumulative plus Project conditions for Project 5-6 Option 1.	Transit	**M-TR-P5-6v:** The implementation of Option 1 under 2025 Cumulative plus Project conditions would add approximately 2,429 seconds (40.5 minutes) of total delay for Muni bus line 27. With mitigation as described in proposed possible Mitigation Measure M-TR-P5-6w in conjunction with proposed possible	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q: above, this delay would not be reduced westbound but would be reduced to 99 seconds (1.6 minutes) of delay eastbound. However, the total added delay of 1,897 seconds (31.6 minutes) would be greater than the transit delay threshold of six minutes. Therefore, a significant transit impact to Muni bus line 27 would occur with implementation of Project 5-6 Option 1 under 2025 Cumulative plus Project conditions.	
TR-P5-6a: Under 2025 Cumulative plus Project conditions for Project 5-6 Option 1, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection in the AM peak hour. **TR-P5-6b:** Under 2025 Cumulative plus Project conditions for Project 5-6 Option 2. a significant impact would occur at the Mission Street/Cesar Chavez Street intersection in the AM peak hour. **TR-P5-6c:** Under Existing plus Project conditions for Project 5-6 Option 1. a significant impact would occur at the Guerrero Street/Cesar Chavez Street intersection. **TR-P5-6e:** Under 2025 Cumulative plus Project conditions for Project 5-6 Option 1. a significant impact would occur at the Guerrero Street/Cesar Chavez Street intersection. **TR-P5-6h:** Under Existing plus Project conditions		**M-TR-P5-6w:** As referenced in the above Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q: The traffic analysis conducted for Project 5-6 included four study intersections along Cesar Chavez for the segment between Hampshire and Guerrero Streets. Analysis indicates that if the lane configurations corresponding to the No Project conditions can be provided, some impacts will be mitigated at these intersections. The following two options are part of proposed possible mitigation measures, for which feasibility has not yet been determined, to reinstate the lane configuration under No Project conditions. Option 1: Removal of parking – For the four study intersections analyzed, approximately 100 spaces would need to be removed on Cesar Chavez Street to mitigate the impacts at these locations. However,	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
for Project 5-6 Option 2. a significant impact would occur at the Mission Street/Cesar Chavez Street intersection. **TR-P 5-6j:** Under 2025 Cumulative plus Project conditions for Project 5-6 Option 2. a significant impact would occur at the Mission Street/Cesar Chavez Street intersection. **TR-P 5-6k:** Under Existing plus Project conditions for Project 5-6 Option 1 a significant impact would occur at the South Van Ness/Cesar Chavez Street intersection. **TR-P 5-6l:** Under Existing plus Project conditions for Project 5-6 Option 2 a significant impact would occur at the South Van Ness/Cesar Chavez Street intersection. **TR-P 5-6m:** Under 2025 Cumulative plus Project conditions for Project 5-6 Option 1 a significant impact would occur at the South Van Ness/Cesar Chavez Street intersection. **TR-P 5-6o:** Under Existing plus Project conditions for Project 5-6 Option 1 a significant impact would occur at the Bryant Street/Cesar Chavez Street intersection. And **TR-P 5-6q:** Under 2025 Cumulative plus Project conditions for Project 5-6 Option 1 a significant impact would occur at the Bryant Street/Cesar Chavez Street intersection.		additional parking spaces may need to be removed to reduce impacts along the entire corridor. Option 2: Implementing a discontinuous bicycle lane – The consultant recommends the bicycle lane be discontinued at selected intersection approaches along Cesar Chavez Street. This option may reduce the number of parking spaces that need to be removed on Cesar Chavez Street compared to Option 1.	

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P5-13a: Project 5-13 would result in a significant impact to loading on the west side of San Bruno Avenue between Paul Avenue and Silver Avenue with implementation of Option 1 under Existing plus Project conditions.	Loading	**M-TR-P5-13a:** No feasible mitigation measures have been identified for Option 1. Hence, a significant loading impact would occur on the west side of San Bruno Avenue between Paul Avenue and Silver Avenue with the implementation of Project 5-13 Option 1 under Existing plus Project conditions.	SUI
TR-P5-13b: Project 5-13 would result in a significant impact to loading on the west side of San Bruno Avenue between Paul Avenue and Silver Avenue with implementation of Option 2 under Existing plus Project conditions.	Loading	**M-TR-P5-13b:** No feasible mitigation measures have been identified for Option 2. Hence, a significant loading impact would occur on the west side of San Bruno Avenue between Paul Avenue and Silver Avenue with the implementation of Project 5-13 Option 2 under Existing plus Project conditions.	SUI
TR-P5-13c: Project 5-13 would result in a significant impact to loading on the west side of San Bruno Avenue between Paul Avenue and Silver Avenue with implementation of Option 1 under 2025 Cumulative plus Project conditions.	Loading	**M-TR-P5-13c:** No feasible mitigation measures have been identified for Option 1. Hence, a significant loading impact would occur on the west side of San Bruno Avenue between Paul Avenue and Silver Avenue with the implementation of Project 5-13 with Option 1 under 2025 Cumulative plus Project conditions.	SUI
TR-P5-13d: Project 5-13 would result in a significant impact to loading on the west side of San Bruno Avenue between Paul Avenue and Silver Avenue with implementation of Option 2 under 2025 Cumulative plus Project conditions.	Loading	**M-TR-P5-13d:** No feasible mitigation measures have been identified for Option 2. Hence, a significant loading impact would occur on the west side of San Bruno Avenue between Paul Avenue and Silver Avenue with the implementation of Project 5-13 with Option 2 under 2025 Cumulative plus Project conditions.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
Cluster 6			
TR-P6-2a (Projects 6-2 and 6-5 combined): Under Existing plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F, and therefore, a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of combined Projects 6-2 and 6-5 Option 1.	Traffic	**M-TR-P6-2a:** No feasible mitigation measures have been identified for the Burnett Avenue/Clipper Street/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of combined Projects 6-2 and 6-5 Option 1.	SUI
TR-P6-2b (Projects 6-2 and 6-5 combined): Under 2025 Cumulative plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F, and therefore, a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of combined Projects 6-2 and 6-5 Option 1.	Traffic	**M-TR-P6-2b:** No feasible mitigation measures have been identified for the Burnett Avenue/Clipper Street/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of combined Projects 6-2 and 6-5 Option 1.	SUI
TR-P6-2c: Under Existing plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of Project 6-2 Option 1.	Traffic	**M-TR-P6-2c:** No feasible mitigation measures have been identified for the Burnett Avenue/Clipper Street/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of Project 6-2 for Option 1 for the PM peak hour.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P6-2d: Under 2025 Cumulative plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of Project 6-2 Option 1.	Traffic	**M-TR-P6-2d:** No feasible mitigation measures have been identified for the Burnett Avenue/Clipper Street/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of Project 6-2 for Option 1 for the PM peak hour.	SUI
TR-P6-5a (Projects 6-5 and 6-6 combined): Under Existing plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F in the AM Peak hour, and therefore, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of combined Projects 6-5 and 6-6 Option 1 for the AM peak hour.	Traffic	**M-TR-P6-5a:** No feasible mitigation measures have been identified for the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/ Portola Drive intersection with the implementation of combined Projects 6-5 and 6-6 Option 1 for the AM peak hour.	SUI
TR-P6-5b (Projects 6-5 and 6-6 combined): Under 2025 Cumulative plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F in the AM Peak hour, and therefore, a significant impact would occur at this intersection with the implementation of combined Projects 6-5 and 6-6 Option 1 for the AM peak hour.	Traffic	**M-TR-P6-5b:** No feasible mitigation measures have been identified for the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/ Portola Drive intersection with the implementation of combined Projects 6-5 and 6-6 for Option 1 for the AM peak hour.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P6-5c: Under Existing plus Project conditions for Option 1, the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F in the AM Peak hour, and therefore, a significant impact would occur at the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-5 Option 1.	Traffic	**M-TR-P6-5c:** No feasible mitigation measures have been identified for the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Projects 6-5 Option 1 for the AM peak hour.	SUI
TR-P6-5d: Under 2025 Cumulative plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F in the AM peak hour, and therefore, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-5 Option 1.	Traffic	**M-TR-P6-5d:** No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Projects 6-5 Option 1 for the AM peak hour.	SUI
TR-P6-5e (Projects 6-5 and 6-6 combined): Under Existing plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/ Portola Drive intersection would operate at LOS F ,and therefore, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/ Portola Drive intersection with the implementation of combined Projects 6-5 and 6-6 Option 1.	Traffic	**M-TR-P6-5e:** No feasible mitigation measures have been identified for the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of combined Projects 6-5 and 6-6 Option 1 for the PM peak hour.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P6-5f (Projects 6-5 and 6-6 combined): Under 2025 Cumulative plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of combined Projects 6-5 and 6-6 Option 1	Traffic	**M-TR-P6-5f:** No feasible mitigation measures have been identified for the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/ Portola Drive intersection with the implementation of combined Projects 6-5 and 6-6 Option 1 for the PM peak hour.	SUI
TR-P6-5g: Under Existing plus Project conditions for Option 1, the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of Project 6-5 Option 1.	Traffic	**M-TR-P6-5g:** No feasible mitigation measures have been identified for the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-5 Option 1 for the PM peak hour.	SUI
TR-P6-5h: Under 2025 Cumulative plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F, and therefore, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-5 Option 1.	Traffic	**M-TR-P6-5h:** No feasible mitigation measures have been identified for the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-5 for Option 1 for the PM peak hour.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P6-5i: Under 2025 Cumulative plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F, and therefore, a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of Project 6-5 Option 1.	Traffic	**M-TR-P6-5i:** No feasible mitigation measures have been identified for the Burnett Avenue/Clipper Street/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of Project 6-5 for Option 1 for the PM peak hour.	SUI
TR-P6-5j (Projects 6-2, 6-5, and 6-6 combined): Muni bus line 48 would experience significant delays under 2025 Cumulative plus Project conditions with Projects 6-2, 6-5, and 6-6 combined for Option 1.	Transit	**M-TR-P6-5j:** No feasible mitigation measure was identified and therefore the impact on Muni bus line 48 under 2025 Cumulative plus Project conditions would remain significant.	SUI
TR-P6-5k (Projects 6-2, 6-5, and 6-6 combined): Muni bus line 52 would experience significant delays under 2025 Cumulative plus Project conditions with implementation of combined Projects 6-2, 6-5, and 6-6 Option 1.	Transit	**M-TR-P6-5k:** No feasible mitigation measure was identified for this impact, and therefore the transit impact on Muni bus line 52 under 2025 Cumulative plus Project conditions would remain significant with the implementation of combined Projects 6-2, 6-5, and 6-6 Option 1.	SUI
TR-P6-6a: Under Existing plus Project conditions the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F in the AM Peak hour, and therefore, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-6 Option 1.	Traffic	**M-TR-P6-6a:** No feasible mitigation measures have been identified for the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/ Portola Drive intersection with the implementation of Project 6-6 Option 1 for the AM peak hour.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P6-6b: Under 2025 Cumulative plus Project conditions the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F in the AM peak hour, and therefore, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-6 Option 1.	Traffic	**M-TR-P6-6b:** No feasible mitigation measures have been identified for the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/ Portola Drive intersection with the implementation of Project 6-6 for Option 1 for the AM peak hour.	SUI
TR-P6-6c: Under Existing plus Project conditions the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, and therefore, a significant impact would occur at this intersection with the implementation of Project 6-6 Option 1.	Traffic	**M-TR-P6-6c:** No feasible mitigation measures have been identified for the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/ Portola Drive intersection with the implementation of Project 6-6 for Option 1 for the PM peak hour.	SUI
TR-P6-6d: Under 2025 Cumulative plus Project the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, and therefore, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-6 Option 1.	Traffic	**M-TR-P6-6d:** No feasible mitigation measures have been identified for the Woodside Avenue/ O'Shaughnessy Boulevard/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/ Portola Drive intersection with the implementation of Project 6-6 Option 1 for the PM peak hour.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
TR-P6-6e: Under 2025 Cumulative plus Project conditions for Option 1, the Fowler Street/Portola Avenue intersection would operate at LOS F, and therefore, a significant impact would occur at , the Fowler Street/Portola Avenue intersection with the implementation of Project 6-6 Option 1.	Traffic	**M-TR-P6-6e:** No feasible mitigation measures have been identified for the Fowler Street/Portola Avenue intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Fowler Street/Portola Avenue intersection with the implementation of Project 6-6 Option 1 for the PM peak hour.	SUI
Cluster 7			
No significant impacts identified.			
Cluster 8			
No significant impacts identified.			
SIGNIFICANT TRANSPORTATION IMPACTS OF MINOR IMPROVEMENTS			
No significant impacts identified.			
SIGNIFICANT TRANSPORTATION IMPACTS OF LONG-TERM IMPROVEMENTS			
Traffic Impacts			
TR-LT1: Both individually, and in a cumulative scenario, the implementation of long-term improvements could result in a reduction in roadway capacity and increased traffic delays. Reduction in the number of travel lanes could subject vehicles, including transit using the affected roadways, to increased congestion and delays.	Traffic	Measures that could potentially reduce significant traffic impacts to less-than-significant levels include: **M-TR-LT1.1:** Unsignalized intersections may be signalized, as appropriate. **M-TR-LT1.2:** Changes may be made to signal timing (including redistributing green time from one phase to another, lengthening of signal cycle times, changing permitted movements to protected movements, signal coordination/progression), as appropriate.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		M-TR-LT1.3: Changes may be made to roadway geometry (e.g., changing shared lanes to exclusive turn lanes, proving exclusive right-turn or left-turn pockets), as appropriate. **M-TR-LT1.4:** Floating bicycle lanes may be implemented, where on-street parking is restricted during peak periods, to provide for additional vehicular capacity, as appropriate. **M-TR-LT1.5:** Parking may be eliminated to provide for additional vehicular capacity, as appropriate. In some instances, where either existing or projected cumulative conditions at intersections operate at LOS E or LOS F conditions, mitigation measures would not be available, and in these cases traffic impacts would remain significant and unavoidable.	
Transit Impacts			
TR-LT2: Both individually, and in a cumulative scenario, the implementation of long-term improvements may cause transit to experience increased travel time on streets where these improvements reduce capacity of roadways and result in significant increases in delay. Buses may experience increased difficulty pulling into and out of curb bus stops due to reconfiguration of bus stops to accommodate bicycle lanes.	Traffic	Potential mitigation measures that could reduce significant transit impacts to less-than-significant levels include: **M-TR-LT2.1:** Signal pre-emption or other transit priority techniques may be applied to reduce overall transit travel times, as appropriate. **M-TR-LT2.2:** Bicycle proposals may be modified to create discontinuities in bicycle treatment to avoid transit delays, as appropriate. **M-TR-LT2.3:** Bus stops may be reconfigured to facilitate bus operations, as appropriate.	SUI

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
		M-TR-LT2.4: Parking may be eliminated to substitute for lane removal and/or increase roadway capacity, as appropriate. In some instances, where either existing or projected cumulative conditions at intersections operate at LOS E or LOS F conditions, feasible mitigation measures would not be available, and transit impacts would remain significant and unavoidable.	
Loading Impacts			
TR-LT3: Both individually, and in a cumulative scenario, the implementation of long-term improvements may result in elimination of curb space currently dedicated to yellow commercial vehicle freight loading zones, or active passenger loading/unloading zones.	Transit	The following mitigation measures could reduce significant loading impacts to less-than-significant levels. **M-TR-LT3.1:** Where feasible and required to respond to loading zone impacts, on-street parking layouts shall be modified to accommodate additional yellow commercial freight loading zones. **M-TR-LT3.2:** Traffic management strategies shall be developed and implemented, where feasible, to accommodate short-term passenger loading/unloading activities. In some locations, feasible mitigation measures would not be available, and loading impacts would remain significant and unavoidable.	SUI
Parking Impacts			
No significant impacts identified.	Parking		

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TABLE ES-1 (CONTINUED)
SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impacts	Impact Category	Mitigation Measures	Level of Significance With Mitigation
Pedestrian Impacts			
No significant impacts identified.	Pedestrians		
Bicycle Impacts			
No significant impacts identified.	Bicycles		
AIR IMPACTS OF NEAR-TERM IMPROVEMENT PROJECTS			
No significant impacts identified.			
NOISE IMPACTS OF NEAR-TERM IMPROVEMENT PROJECTS			
No significant impacts identified.			

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TABLE ES-2
SUMMARY OF IMPROVEMENT MEASURES

NEAR-TERM IMPROVEMENT PROJECTS		
Project 2-11 – For both Existing plus Project conditions and 2025 Cumulative plus Project conditions.	Loading	**I-P2-11a**: In order to address improvements for the non-significant loading impacts resulting from the loss of on-street loading spaces under Existing plus Project and 2025 Cumulative plus Project conditions, it is recommended that the City conduct a loading needs analysis to determine how many and where additional on-street yellow commercial freight loading spaces are required on or near Market Street between Laguna and Noe Streets.
Project 5-7a – For both Existing plus Project conditions and Cumulative plus Project conditions.	Parking	**I-P5-7a**: This improvement measure is recommended to improve parking conditions with implementation of Project 5-7. The second phase design study for the Glen Park Station area conducted by the SFMTA could further investigate parking management strategies in this area, such as parking pricing, better striping and potential expansion of the existing parking lot on the north side of Bosworth Street. The Glen Park neighborhood has been working closely with the City on the development of a transportation concept plan for this area. It should consider potential loss of an additional 56 to 59 parking spaces due to the proposed bicycle improvements and identify acceptable strategies with the neighborhood organizations to address the issue of parking loss.
LONG-TERM IMPROVEMENT PROJECTS		
Loading: Both individually, and in a cumulative scenario, the implementation of long-term improvements to accommodate bicycle lanes could result in elimination of curb space currently dedicated to yellow commercial vehicle freight loading zones or active passenger loading/ unloading zones.	Loading	Additional improvements should be made at some locations, where the potential significance is found to be less-than-significant. These changes may accommodate additional loading demand, although the impact was found less-than-significant in the given location. These additional improvements include: **I-TR-LT3.1:** Converting metered parking to yellow commercial freight loading zones, where feasible; and **I-TR-LT3.2:** Developing and implementing traffic management strategies to accommodate short-term passenger loading/unloading activities, where feasible.

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TABLE ES-3
SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES IDENTIFIED IN THE INITIAL STUDY (SEE APPENDIX A)

CULTURAL AND PALEONTOLOGICAL RESOURCES	
Archaeological Resources: Accidental Discovery	**Mitigation Measure 1: Archaeological Resources: Accidental Discovery** The following mitigation measure is required to avoid any potential adverse effect from the Proposed Project on accidentally discovered buried or submerged historical resources as defined in CEQA Guidelines Section 15064.5(a)(c). The Project Sponsor shall distribute the Planning Department archeological resource "ALERT" sheet to the project prime contractor; to any project subcontractor (including demolition, excavation, grading, foundation, pile driving, etc. firms); or utilities firm involved in soils disturbing activities within the project site. Prior to any soils disturbing activities being undertaken each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel including, machine operators, field crew, pile drivers, supervisory personnel, etc. The Project Sponsor shall provide the Environmental Review Officer (ERO) with a signed affidavit from the responsible parties (prime contractor, subcontractor(s), and utilities firm) to the ERO confirming that all field personnel have received copies of the Alert Sheet. Should any indication of an archeological resource be encountered during any soils disturbing activity of the project, the project Head Foreman and/or Project Sponsor shall immediately notify the ERO and shall immediately suspend any soils disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken. If the ERO determines that an archeological resource may be present within the project site, the Project Sponsor shall retain the services of a qualified archeological consultant. The archeological consultant shall advise the ERO as to whether the discovery is an archeological resource, retains sufficient integrity, and is of potential scientific/historical/cultural significance. If an archeological resource is present, the archeological consultant shall identify and evaluate the archeological resource. The archeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require, if warranted, specific additional measures to be implemented by the Project Sponsor. Measures might include: preservation in situ of the archeological resource; an archaeological monitoring program; or an archeological testing program. If an archeological monitoring program or archeological testing program is required, it shall be consistent with the Major Environmental Analysis (MEA) division guidelines for such programs. The ERO may also require that the Project Sponsor immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions.

TABLE ES-3
SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES IDENTIFIED IN THE INITIAL STUDY (SEE APPENDIX A)

	The project archeological consultant shall submit a Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describing the archeological and historical research methods employed in the archeological monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report. Copies of the Draft FARR shall be sent to the ERO for review and approval. Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive three copies of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest or interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.
BIOLOGICAL RESOURCES	
Biological Resources	**Mitigation Measure 3: Biological Resources** To implement California Fish and Game Code Section 3503, the Project Sponsor would conduct a field survey 14 to 21 days prior to construction activities that would result in vegetation removal during the breeding season (February 1 through August 31). A qualified biologist shall determine if active nests of native birds are present in the construction zone. In the event an active nest is discovered in areas to be disturbed, removal of the nesting substrate shall be postponed until the nest is vacated and juveniles have fledged (typically 3-4 weeks for most small passerines), as determined by the biologist, and there is no evidence of second nesting attempts, unless the California Department of Fish and Game (and the U.S. Fish and Wildlife Service for migratory birds) authorize otherwise. No surveys are required and no impact would occur if vegetation removal, grading or other heavy construction activities would occur between September 1 to January 31, outside the nesting season.
AIR QUALITY	
Construction-Related Air Quality	**Mitigation Measure 2: Construction-Related Air Quality** The Mitigation Measure identified in the Initial Study is no longer needed due to San Francisco's adoption of the Construction Dust Control Ordinance, Ordinance 176-08 (July 2008) which amends the San Francisco *Building Code* and *Health Code* to address this issue. Compliance with these codes, by the project sponsor, would reduce any potential construction air quality impacts to less-than-significant.

C. SUMMARY OF PROJECT ALTERNATIVES

As stated in Section 15126.6 (a) of the *CEQA Guidelines*, "an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." These are presented in Section VII of this document.

Unlike most EIRs, this EIR contains no separate chapter analyzing alternatives to the proposed project. This is because this EIR does not analyze a preferred project. Instead, for many of the near-term improvements, this EIR evaluates two options as well as a future No-Project scenario (i.e., year 2025 Cumulative conditions, assuming that none of the bicycle facility options is adopted), at an equal level of detail, as EIR alternatives. These options, and analysis of their potential environmental impacts, are presented throughout this document, and constitute the basis for the project-level alternatives, namely the "Project-Level Impacts Alternative A" and the "Project-Level Impacts Alternative B."

For the program-level actions, this EIR presents two additional alternatives, which can be combined with either of the project-level alternatives. One program-level alternative is the full implementation of all program-level actions proposed, or the "Program-Level Improvements Alternative A." A second alternative, the "Program-Level Improvements Alternative B (Sharrows)," would limit the program-level actions to activities involved in locating, placing, and maintaining sharrows.

Separate policy action alternatives are not proposed, beyond the "No Project" alternative. This is because the combination of project-level and program-level alternatives, above, will automatically generate a lower impact or higher impact policy action scenario. The policy action alternatives will follow from the other project alternatives considered, and would not require separate analysis as the policy actions produce no significant impacts beyond their indirect impact in support of whichever of the aforementioned improvement projects and programs are adopted.

D. AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

The lead agency, responsible for reviewing and publishing the CEQA notices and documents, is the San Francisco Planning Department Major Environmental Review division (MEA). On June

5, 2007a Notice of Preparation of an Environmental Impact Report (NOP) and Notice of Public Scoping meeting for the Bicycle Plan Project was published, in accord with CEQA noticing procedures. A Public Scoping meeting was held on June 26, 2007, and the Initial Study for the Bicycle Plan Project was published on March 15, 2008. As noted above, the Bicycle Plan Project NOP and the Initial Study identified significant environmental effects with respect to transportation issues, and also transportation-related air quality and noise that may result from the project.

To date, the San Francisco Planning Department has received 32 comment letters or emails on the Bicycle Plan Project. These letters or emails express a variety of positions, requests, proposals, and concerns. Some of the opinions, requests, proposals, and concerns offered are presented by several authors, and some of which are presented by a single author. The positions presented in these comment letters generally included[4]:

- Public safety concerns about the mixing of bicycles with vehicles and pedestrians
- Concerns about the loss of parking in residential and commercial neighborhoods
- Concerns about the adequacy of the Initial Study Public Scoping Notice
- Concerns over potential loss of street trees
- Comments from other State and Federal agencies about how the Bicycle Plan Project would relate to their areas of jurisdiction
- Concerns and questions about potential effects on traffic signal timing and vehicle traffic speeds
- Concerns about the proposed elimination of vehicle traffic lanes
- Concerns about potential slow-downs at traffic signals and resultant vehicle emissions
- Requests for additional information to be included on Project maps or in the text of the DEIR
- Requests for greater bicycle route network segment connectivity
- Requests for further analysis of some Project options
- Concerns about allowing bicycles on sidewalks and other pedestrian impacts of the Bicycle Plan Project.

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[4] This itemized list of comment letter concerns is not exhaustive. For a full understanding of all comments received, the comments letters may be reviewed. The complete record of all comment letters received is available for public review by appointment between 9:00 am and 4:00 pm on standard business days at the San Francisco Planning Department, which is located at 1650 Mission Street, Suite 400, San Francisco, California 94103.

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III. INTRODUCTION

A. HISTORY OF PROJECT

The San Francisco City Charter Section 16.102 and Section 8A.113 state that San Francisco should develop, "a safe, interconnected bicycle circulation network" and that travel, "...by bicycle and on foot must be an attractive alternative to travel by private automobile." In order to facilitate travel by bicycle within San Francisco, the City adopted its first bicycle plan in 1997. The goal of the 1997 Bicycle Plan was to provide a comprehensive guide for efforts to make San Francisco a more "bicycle-friendly" city. In conjunction with multiple City agencies, the San Francisco Bicycle Program (Bicycle Program) within the San Francisco Municipal Transportation Agency (SFMTA) is responsible for implementing the policies, programs, and physical improvements to achieve this goal.

An update of the existing 1997 Bicycle Plan was initiated by the Bicycle Program staff in 2002. The 2002 planning process resulted in the development of the Bicycle Plan Policy Framework (May 2005), which updated the goals and objectives from the existing 1997 Bicycle Plan and added action items to better define the necessary steps to achieve the stated goals and objectives, and the drafting of the Bicycle Plan Network Improvement Document (NID) (April 2005), which described the existing bicycle route network (a series of interconnected streets and pathways on which bicycling is encouraged), and identified specific potential projects, both near-term[1] and long-term, to improve the bicycle route network. These documents were published by SFMTA in 2005.

The San Francisco Board of Supervisors' (BOS) approval of the Bicycle Plan Policy Framework relied in part on the City's determination that the 2005 Bicycle Plan Policy Framework was exempt under the California Environmental Quality Act (CEQA) Guidelines Section 15061(b)(3), the General Rule Exclusion (GRE). Under a GRE, no CEQA review is required; thus no Negative Declaration, Mitigated Negative Declaration or Environmental Impact Report (EIR) was prepared.

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[1] Near-term refers to bicycle improvement projects which would be implemented within five years of project approval. The time line for the implementation of these near-term improvements is dependent upon completion of environmental review and the lifting of the current California Superior Court injunction prohibiting installation of bicycle facilities.

This 2005 Bicycle Plan Policy Framework was a component of the Bike Plan. Other components were a Network Improvement Document, *San Francisco General Plan (General Plan)* and *Planning Code* amendments, and an implementation phasing plan. The SFMTA brought this Bicycle Plan to the Planning Commission in early 2005. The Planning Commission approved the *General Plan* amendments, notwithstanding public comments that the project's potential environmental impacts should be fully reviewed and analyzed, and presented in an environmental impact report (EIR) prior to the City's granting approvals. The environmental determination was appealed to the San Francisco Board of Supervisors. Again, an argument was presented that the Bike Plan Policy Framework should not be approved without an EIR. The Board of Supervisors affirmed the Planning Department General Rule Exclusion (GRE). Subsequently, the Board of Supervisors, by unanimous action, adopted the Bike Plan Policy Framework and the *General Plan* Amendments.

In response to the approval of the 2005 Bicycle Plan Policy Framework, a concerned citizen sued the City, charging that the City did not conduct adequate environmental review of the project. In November 2006, a Superior Court judge ruled that the City must immediately stop all Bicycle Plan activity, including any improvements and policies approved and adopted under the plan. This injunction was to remain in effect until the City prepared an EIR on the Bicycle Plan Policy Framework, Network Improvement Document, and implementation phasing plan. In January 2007, the SFMTA Board of Directors (SFMTA Board) directed its staff to perform the necessary environmental review of the Bicycle Plan Project. The EIR you are reading is, therefore, the City's response to that November 2006 Court injunction. If this EIR is deemed adequate by the City's decision-making body (here, the Planning Commission or the Board of Supervisors, on appeal), it will vote to certify the EIR. This EIR will then form a part of the basis for the City's new consideration of, and decision on, the Bicycle Plan.

Since the imposition of the injunction in 2006, City Staff have worked to refine the Bicycle Plan. Based on public input and dialogue with City staff and the SFMTA Board, the Bicycle Plan has been further refined and now includes the Network Improvement Document. Therefore, the 2005 Bicycle Plan is no longer under consideration by the City, and is not the project considered as the subject of this environmental analysis. It is the updated and refined Bicycle Plan (2008) that is analyzed and discussed in this environmental document, and it is this updated and refined Bicycle Plan that could be approved by the City, upon certification of this EIR.

B. PROJECT SUMMARY

The Bicycle Plan currently under consideration maps out a five-year strategy and includes other policies and long-term goals to satisfy eight goals to improve conditions for the San Francisco bicycle community:

- Refine and expand the existing bicycle route network;
- Ensure plentiful, high-quality bicycle parking to complement the bicycle route network;
- Expand bicycle access to transit and bridges;
- Educate the public about bicycle safety;
- Improve bicycle safety through targeted enforcement;
- Promote and encourage safe bicycling;
- Adopt bicycle-friendly practices and policies;
- Prioritize and increase bicycle funding.

The Bicycle Plan would accomplish these goals through four mechanisms:

- The adoption of policy actions including, but not limited to, amending sections of the *San Francisco General Plan, San Francisco Planning Code* and *San Francisco Transportation Code* to reflect the Bicycle Plan, providing bicycle safety and parking information, and working with other agencies to further the Bicycle Plan goals through coordinated multi-agency policies and actions;
- The implementation of 60 specific near-term bicycle route network improvement projects (near-term improvements) to address gaps and deficiencies in the bicycle route network, including, but not limited to, signal timing changes, travel lane removals, and parking space realignment at specific intersections;
- The implementation of a program of minor improvements including, but not limited to, the installation of sharrows (shared bicycle and automobile travel lanes), installation of bicycle parking racks on sidewalks, on-street bicycle parking, bicycle boxes, minor pavement marking changes, colored pavement, bicycle route signage changes, traffic signal changes, and on-street vehicle parking reconfiguration;
- The future development and implementation of long-term improvements which would address gaps and deficiencies in the bicycle route network to provide a comprehensive network of bicycle facilities with Citywide coverage. The goal is to improve bicycling

conditions and facilities for identified areas or neighborhoods that would complete the bicycle route network.

C. PURPOSE OF THIS EIR

As noted above, this EIR would be evaluated and, if it is deemed that it adequately identifies and analyzes potential Bicycle Plan Project impacts on the physical environment, this EIR would be certified by the City. This action would allow the City to use this EIR as part of their foundation for a decision to approve or disapprove the Bicycle Plan in its current form. No action may be taken on the Bicycle Plan project until this EIR is certified. In more general terms, this EIR functions as a thorough environmental review of all potential impacts that the Bicycle Plan project may produce on the physical environment in order that decision-makers and the community may fully understand and comment on these ramifications before any decision is taken on the Bicycle Plan project itself.

In accord with requirements of the California Environmental Quality Act (CEQA), most discretionary projects that may result in significant environmental impacts shall be subject to further evaluation and analysis of these potential environmental impacts. An Initial Study document may be prepared, to examine the entire range of potential environmental impacts. The Initial Study may eliminate some potential areas of impact from further review, if the Initial Study's abbreviated analysis concludes that there is no possible potential for significant impact to any of these "scoped out" areas of environmental significance. These "scoped out" areas are thus eliminated from further review in the CEQA process. Those areas that are not "scoped out" must be reviewed further, in either a Negative Declaration (ND) or an Environmental Impact Report (EIR). In the case of the Bicycle Plan, the Initial Study determined that the only potentially significant impacts would be in the areas of Transportation, and transportation-related Air and Noise quality, and the City is studying these areas in an EIR as directed by the Court. Whether a project's environmental impacts are considered in an ND or an EIR, there is a mandatory minimum period provided for public review of the draft environmental document, and public comment is solicited and allowed throughout this period. In this case, the draft EIR will be circulated and available for public review for a period of no less than 45 days. Any public comments received will be addressed, and both the comments and responses will be included with the final EIR that is brought to the Planning Commission for consideration, after the close of the public review period.

In an EIR, all potential impacts must be identified as either significant, less-than-significant, or significant but able to be mitigated to a less-than-significant level by imposition of mitigation

measures onto the project. Any project environmental impacts which cannot be mitigated to a level of less-than-significant, are identified as significant and unavoidable impacts. The decision-making body that reviews the EIR may adopt the Bicycle Plan even if significant and unavoidable impacts are identified, by citing "overriding considerations" which they believe to justify the approval of the Bicycle Plan even in light of the Plan's potential to create significant and unavoidable impacts on the environment.

D. TYPE OF EIR

The Bicycle Plan Project has been analyzed, under CEQA, at both a project level and a program level.

PROGRAM-LEVEL REVIEW

Under CEQA, program-level environmental review is used in environmental analyses for a series of actions that can be characterized as one large project because they are logically related. The series of actions can be related geographically or can be logical parts in a chain of contemplated actions.

Program-level review is used in connection with issuance of rules, plans, or other general criteria, to govern the conduct of a continuing or proposed program. For some site-specific purposes, a program-level environmental document may provide enough detail to enable an agency to make informed site-specific decisions within the program, allowing an agency to carry out an entire program without having to prepare additional site-specific environmental documents. In other cases, the formulation of details regarding site-specific issues is unknown until subsequent design development and the preparation of later project-level environmental documents. In such situations the program-level EIR may properly focus on "broad policy alternatives and programmatic mitigation measures," as well as "regional influences, secondary effects, cumulative impacts...and other factors that apply to the program as a whole," [CEQA Guidelines, §15168, subds. (b)(4), (d)(2)]. Program-level review is also appropriate for individual activities carried out under the same authorizing statutory or regulatory authority, having generally similar environmental effects that can be mitigated in similar ways. [CEQA Guidelines, Section 15168.]

The San Francisco Bicycle Program is an ongoing program to facilitate and increase the safe use of bicycles as a mode of transportation with the City. The updated Bicycle Plan sets the foundation for the associated near-term, long-term, and minor improvements to the existing

bicycle route network. These improvement projects are a logically related series of actions to achieve the overall goal of increasing bicycle use within the City.

The program-level review in this document will provide program-level transportation impact analysis of the following elements of the Bicycle Plan Project: the Bicycle Plan's goals, objectives and action items including the existing system-wide bicycle route network, minor improvements, and long-term improvements. All of these further the goals of the Bicycle Plan and Program. These elements are described in more detail above and in Subsections V.A.2, V.A.4, and V.A.5 of the Transportation section.

PROJECT-LEVEL REVIEW

Under CEQA, project-level environmental analysis examines the environmental impacts of an individual project, and examines phases of the project including construction and operation. Project-level analysis may be conducted once a sufficient level of detail is known regarding a proposed project. With a detailed project description and an understanding of the existing environmental conditions, the potential environmental effects of the proposed project may be understood and analyzed.

E. ENVIRONMENTAL REVIEW ACTIONS AND PUBLIC RESPONSES

The lead agency, responsible for reviewing and publishing the CEQA notices and documents, is the San Francisco Planning Department Major Environmental Review division (MEA). On June 5, 2007, MEA published a Notice of Preparation of an Environmental Impact Report (NOP) and Notice of Public Scoping meeting for the Bicycle Plan Project, in accord with CEQA noticing procedures. The MEA held a Public Scoping meeting on June 26, 2007, and published the Initial Study for the Bicycle Plan Project on March 15, 2008. As noted above, the Bicycle Plan Project NOP and the Initial Study identified significant environmental effects with respect to transportation issues, and also transportation-related air quality and noise that may result from the project.

To date, MEA has received 32 comment letters or emails on the Bicycle Plan Project. These letters or emails express a variety of positions, requests, proposals, and concerns. Some of the opinions, requests, proposals, and concerns offered are presented by several authors, and some

of which are presented by a single author. The contents of these comment letters are summarized below[2]:

- Public safety concerns related to the mixing of drivers, pedestrians, and cyclists on roadway segments with high traffic volumes, or heavy pedestrian crossing activities, or vehicle speed limits of 35 miles per hour and more
- Concerns about the removal of on-street parking in residential neighborhoods, including a statement that this action would violate property owners' rights
- Concerns over the adequacy of the Bicycle Plan Project and EIR maps and route network
- A concern about the loss of street trees as a result of the installation of bicycle lanes
- A concern that the Bicycle Plan Project generally respect San Francisco Bay Conservation and Development Commission (BCDC) jurisdiction and comply with BCDC regulations related to bay fill, bicycle and non-motorized Bay access and connections to the Bay Trail, and that the Bicycle Plan Project should address opportunities to connect existing Bayside bicycle recreational and transportation routes to the proposed Bicycle Plan Project improvements
- A concern that the Bicycle Plan Project Initial Study did not identify a project that would perform the dual goals of restricting inter-area vehicle travel while encouraging bicycling inter-area use; that some references to sharrows and related restrictions on installation of bicycle lanes in certain areas should be deleted from the document; that bicycle facilities and network improvements on certain streets and street segments and tunnels should be altered to improve bicycle network connectivity or bicyclist safety; and that other improvements such as additional sharrows should be added to the bicycle route network under the Bicycle Plan Project
- A concern that the June 5, 2007 Scoping Notice did not contain an accurate Project description, made erroneous claims about street changes already implemented, included an inaccurate map, incorrectly concluded that the Project would have "little direct impact on land use in the City," did not properly establish Project baseline and existing conditions, and that any EIR carried out will therefore not comply with CEQA; further

[2] This itemized list of comment letter concerns is not exhaustive. For a full understanding of comments received, the reader should review the complete text of the comment letters. A complete record of comment letters received, and the text of each letter, is available for public review by appointment between 9:00 am and 4:00 pm on standard business days at San Francisco Planning Department, Major Environmental Analysis, which is located at 1650 Mission Street, Suite 400, San Francisco, California 94103.

concerns were that the EIR analyze the Project's impacts on parking, air quality, transit, emergency vehicles, pedestrians, and the City's General Plan and other codes; further note was made that the EIR should evaluate the Project's proposed elimination of LOS[3] and proposed creation of bicycle boulevards and "traffic calming" impediments; additional areas of concern identified by this particular author were that the EIR must offer a full range of alternatives to the Project, rather than just two alternatives, that the public, residents, and businesses affected by the Bicycle Plan Project on any street must be given notice of Project scoping and analysis of conditions on the affected streets, and that the EIR not proceed under a "done-deal premise"

- Several concerns over the removal of parking immediately in front of and near businesses
- Concerns about changes to traffic signal timing that would result under implementation of this Project
- A concern that certain long-term improvements be implemented in the near future, to allow for the legitimate imposition of lower speed limits in the vicinity of a proposed long-term bicycle route extension
- Opposition to the removal of parking and traffic lanes around San Francisco City College
- Concerns that the elimination of traffic lanes could produce greater vehicle stacking at some intersections, and result in greater than normal (perhaps greater than acceptable) levels of air pollution
- Opposition to the replacement of existing sharrows with bicycle lanes, in some areas, and a related concern that neighbors in the author's neighborhood were not notified of this proposed plan
- Opposition to the Bicycle Plan Project's elimination of parking spaces for the benefit of installing bicycle paths in certain areas, and related disagreement with the required timeline under which public comment letters must be submitted
- Requests for the Draft EIR (DEIR) to provide clear drawings of existing and proposed Bay Trail bicycle facilities within the Bayview Transportation Improvements Project area, a request that the Bay Trail be clearly and completely depicted in the DEIR, a confirmation that air quality modeling will occur at selected locations where lane

[3] This is not a part of the current Bicycle Plan Project.

configuration changes will occur with a note that overall emissions impacts should also be modeled, and a request that the Bicycle Plan Project make reference to anticipated minor changes to the Bay Trail through the San Francisco Marina Rehabilitation Project

- A request for more analysis of the linkages of the bicycle route network to new Mission Bay development
- Requests for bicycle lanes and improvements to be considered on streets and in locations not considered for bicycle lanes in the Initial Study (Appendix A)
- A copy of a New York Time "blog" that observes, among other things, that bicyclists cannot truly be separated from other traffic on the roadways, that the key is whether the bicycle/vehicle interactions will be safer or more dangerous, as a result of the adoption of any citywide bicycle plan
- A request for the Bicycle Plan Project to discuss the Transit First policy, to study the impacts, interfaces and possible mitigations of bicycles moving through crosswalks and along bus bulbs, to study bicyclist parking needs, and to define rules for bicyclists to obey in the right-of-way
- A request for the update of the Bicycle Plan Project's name to exclude the Proposition K 5-Year Prioritization Plan which is no longer a separate document associated with the Plan
- A concern over the removal of parking with the specific reference to author's estimate of the average age on the southwestern side of the City, namely, 45 to 80 years, and the suggestion that it is unreasonable to expect these residents to bicycle to accomplish their daily tasks
- A request for thorough exploration of potential impacts of allowing bicycles on sidewalks in limited circumstances and locations, and a request for thorough evaluation of pedestrian impacts under Projects 2-10, 2-11, 3-4, 5-10, and 8-1 under the Bicycle Plan Project, and a further request that the Plan EIR thoroughly analyze proposed guidelines for how bicycle racks may be installed
- A letter of support for Option 2 of the Bicycle Plan for Project 6-6, and opposing Option 1 of the Plan's Project 6-6
- Several additional letters of support, some of which included requests for changes in graphic representations on Bicycle Plan Project maps, requests for additional coordination with other agency plans, such as the Presidio Trails and Bikeways Master Plan, and other agencies, such as the National Park Service, requests that Option 2 be

selected for Project 4-4, instead of Option 1, and requests for focused analysis of transit routes and impacts on transit service under the Bicycle Plan Project

F. TO LEARN MORE

Copies of this EIR and the updated Bicycle Plan are available for review by appointment between 9:00 a.m. and 4:00 p.m. on standard business days at the address below. Please contact Debra Dwyer at 415-575-9031 to make an appointment.

San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, California 94103

Any interested party may submit written comments or questions on this EIR. Comments should be submitted to Bill Wycko, Environmental Review Officer, at the above address. The public comment period on this EIR will extend from November 27, 2008 to 5:00 p.m. on January 13, 2009. All comments received during this time, will receive responses prior to final certification of the EIR.

IV. PROJECT DESCRIPTION

A. PROJECT OBJECTIVES

The vision of the San Francisco Bicycle Plan (Bicycle Plan) is to make bicycling an integral part of daily life in the City, and the overall objectives are to (1) increase the daily number of bicycle trips in San Francisco; (2) develop improved methods for tracking bicycle usage; and (3) reduce the rate of bicycle collisions as bicycle usage increases. The Bicycle Plan's overall goal is to increase safe bicycle use; the Bicycle Plan's specific goals are to (1) refine and expand the existing bicycle route network; (2) ensure plentiful, high-quality bicycle parking; (3) expand bicycle access to transit and bridges; (4) educate the public about bicycle safety; (5) improve bicycle safety through targeted enforcement; (6) promote and encourage safe bicycling; (7) adopt bicycle-friendly practices and policies; and (8) prioritize and increase bicycle funding. In order to achieve these goals, the Bicycle Plan would amend existing objectives and policies to encourage bicycle use in the City, would describe the existing bicycle route network (a series of interconnected streets and pathways on which bicycling is encouraged), and would identify improvements to achieve the established objectives. Another objective is that adoption of the Bicycle Plan would also satisfy California State funding requirements and enhance the image of San Francisco as a City supporting the benefits of bicycling by providing safe and accessible bicycle facilities.

The Project Sponsor is the San Francisco Municipal Transportation Agency (SFMTA), and the San Francisco Planning Department (Planning Department) is the California Environmental Quality Act (CEQA) reviewing agency. If the project is approved, the SFMTA, the San Francisco Recreation and Park Department (RPD), and the San Francisco Department of Public Works (DPW), under the direction of SFMTA or RPD, would implement improvements depending on which entity has jurisdiction.

An update of the existing 1997 San Francisco Bicycle Plan was initiated in 2002. The 2002 planning process resulted in the development of the Bicycle Plan Policy Framework (May 2005), which updated the goals and objectives from the existing 1997 Bicycle Plan and added action items to better define the necessary steps to achieve the stated goals and objectives, and the drafting of the Bicycle Plan Network Improvement Document (NID) (April 2005), which described the existing bicycle route network, and identified specific potential projects, both near-term and long-term, to improve the bicycle route network. These documents were published by SFMTA in 2005. Adoption and implementation of the Bicycle Plan would qualify

the City for funding from the State Bicycle Transportation Account for bicycle facilities and programs. In June 2005, the San Francisco Board of Supervisors (BOS) approved the Bicycle Plan Policy Framework, which had been determined to be exempt under the CEQA Guidelines Section 15061(b)(3), the General Rule Exclusion (GRE). Under a GRE, no CEQA review is required; thus, no Mitigated Negative Declaration or Environmental Impact Report (EIR) was prepared. An injunction to stop implementation of the Bicycle Plan improvements was issued in June 2006 by the Superior Court of California at the request of groups seeking greater environmental review of the proposed Bicycle Plan Policy Framework and the April 2005 Draft NID. In November 2006, the Superior Court of California found that the City failed to properly evaluate the Bicycle Plan under CEQA and determined that an injunction would remain in effect until the City complies with CEQA. The current EIR has been prepared in compliance with that injunction.

THE BICYCLE PLAN PROJECT

The proposed project ("Proposed Project") consists of the San Francisco Bicycle Plan; the phasing of implementation of near-term, long-term, and other minor improvements to the bicycle route network; as well as amendments to the *San Francisco General Plan* (*General Plan*), the *San Francisco Planning Code (Planning Code)*, and the *San Francisco Transportation Code (Transportation Code)*. Near-term bicycle route network improvement projects (near-term improvements) have been designed and are anticipated to be constructed within the next five years following completion of environmental review and approval of the specific project. Long-term bicycle route network improvement projects (long-term improvements) are either proposed along the existing bicycle route network, or consist of potential additions to the bicycle route network at a future date. Specific designs for these long-term projects have not been developed at this time. Minor improvements would include minor pavement marking and signage changes to improve bicycle travel, such as the installation of colored pavement materials, the installation of sharrows (shared roadway bicycle markings),[1] minor changes to parking and traffic lane configurations, minor changes to intersection traffic signal timing plans,

[1] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/ CAMUTCD-Part 9.pdf.

the installation of bicycle boxes[2] at certain intersections, and bicycle parking within the public right-of-way, including bicycle racks on sidewalks meeting certain criteria.

This environmental review for the Bicycle Plan includes project-level review of specific near-term improvements to the bicycle route network, and program-level review of the proposed *General Plan* amendments, *Planning Code* amendments, *Transportation Code* amendments, long-term improvements, and minor improvements that may be made to further the goals of the Bicycle Plan.

The Initial Study, attached as Appendix A,[3] assessed the following environmental factors:

- Land Use and Land Use Planning
- Aesthetics
- Population and Housing
- Cultural and Paleontological Resources
- Transportation and Circulation
- Noise
- Air Quality
- Wind and Shadow
- Recreation
- Utilities and Service Systems
- Public Services
- Biological Resources

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[2] Bicycle boxes are striped waiting areas for bicyclists situated behind a crosswalk and in front of a motor vehicle stop bar where a bicycle lane approaches a signalized intersection. Bicycle boxes allow bicyclists approaching an intersection in a bicycle lane to move to the front of a queue of motor vehicles and position themselves for turning movements at the intersection. Bicycle boxes include a stenciled bicycle marking and are generally accompanied by signs communicating where bicycles and motor vehicles should stop.

[3] The Initial Study for the Bicycle Plan Project EIR was published on March 15, 2008 with an Appendix of Project Drawings (Appendix A of the Initial Study). Some of the project drawings have been modified. A current set of project drawings for the near-term improvements is being provided here as Appendix B. Therefore, Appendix A of the Initial Study is not being attached to this document. These drawings are available online at the Planning Department Web site, www.sfplanning.org/mea, or may be viewed by appointment at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, as part of Case file 2007.0347E.

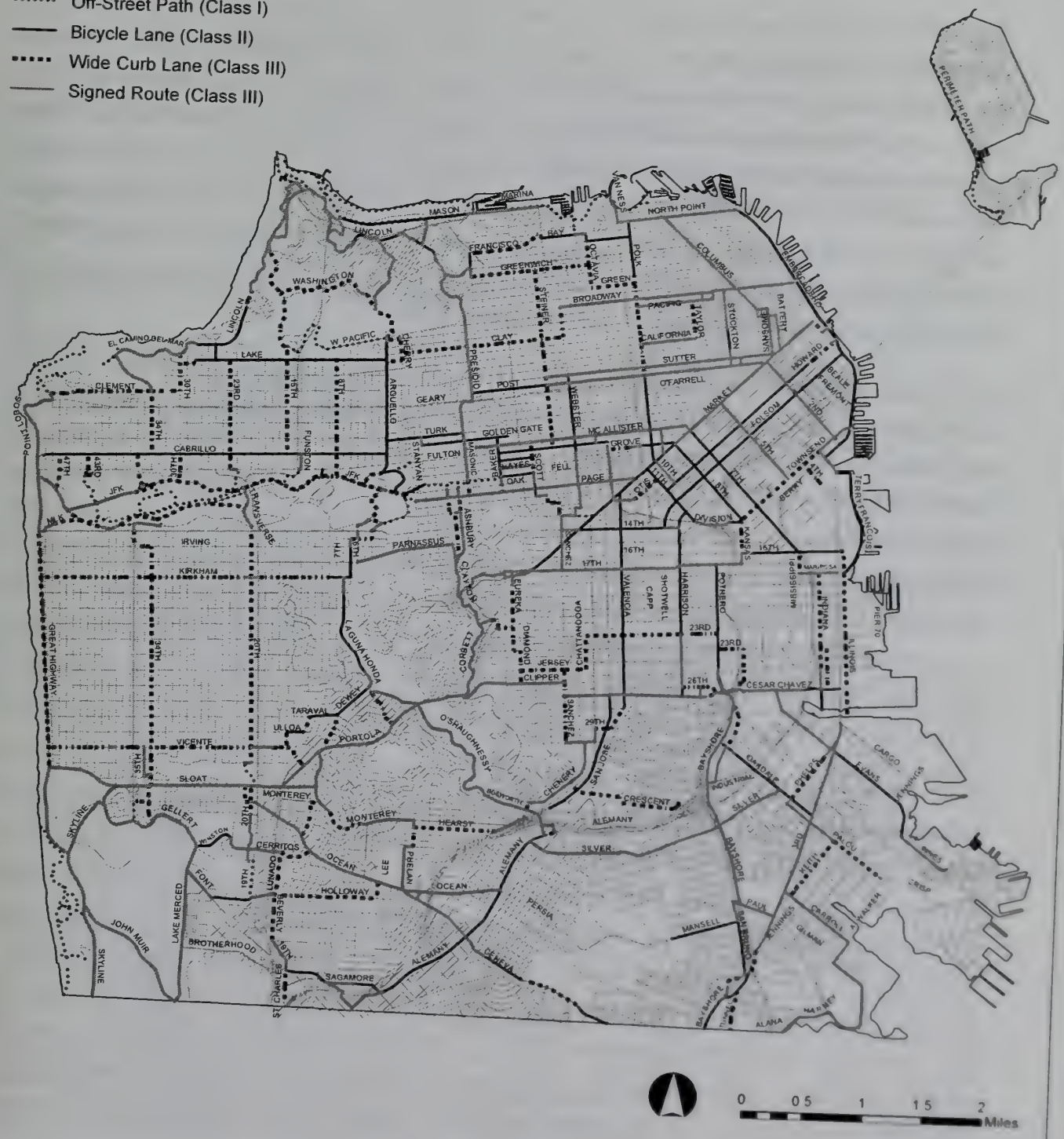
- Geology and Soils
- Hydrology and Water Quality
- Hazards and Hazardous Materials
- Mineral and Energy Resources
- Mandatory Findings of Significance

The Initial Study concluded that the Proposed Project would have a less-than-significant impact with mitigation measures in most of these areas, except Transportation and Circulation, Noise, and Air Quality, which the Initial Study identified as requiring additional environmental review and analysis in an EIR. These environmental factors are addressed in the EIR. The Proposed Project's potential effects regarding the other environmental factors from the Initial Study checklist are adequately addressed in that document and, therefore, will not be addressed in this EIR.

As stated in the Notice of Preparation and in the Initial Study, attached as Appendix A, the Planning Department has determined an EIR must be prepared for the Proposed Project prior to any final decision regarding whether to approve the project. The purpose of this EIR is to provide information about potential significant physical environmental effects of the Proposed Project, to identify possible ways to minimize the significant effects, and to describe and analyze possible alternatives to the Proposed Project.

B. PROJECT LOCATION

The Proposed Project would include improvements to the bicycle route network that would be located on public land, primarily within the public right-of-way on streets throughout San Francisco. Many of the project-specific changes to the existing bicycle route network would be located within the City's right-of-way under DPW jurisdiction. However, some segments of the bicycle route network and potential future additions to the network would be in parks or on other public land under the jurisdiction of these other local, state, and federal agencies: RPD, the Port of San Francisco (the Port), the San Francisco Public Utilities Commission (the PUC), the San Francisco Redevelopment Agency, San Francisco State University, the California Department of Transportation (Caltrans), and the National Park Service (The Presidio). The project location, as described above, is shown in Figure IV.B.1-1: Project Location and Site Plan, on p. IV.B-5.



SOURCE: Wilbur Smith Associates, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE IV.B.1-1: PROJECT LOCATION AND SITE PLAN

EXISTING SITE CONDITIONS

As described above and illustrated in Figure IV.B.1-1: Project Location and Site Plan, on p. IV.B-5, the project site consists of various locations throughout San Francisco. The project site is primarily along the public street right-of-way, but also includes bicycle facilities on other public land. The existing site conditions consist of the existing bicycle route network that is lain out primarily along streets and thoroughfares throughout the City. For those segments within park land, many are within street rights-of-way such as the bicycle routes along Lincoln Boulevard in the Presidio, or John F. Kennedy Drive in Golden Gate Park. Other bicycle network routes located in parks are typically paved paths such as the bicycle paths through the Panhandle near Golden Gate Park or around Lake Merced.

San Francisco's neighborhood districts are conducive to neighborhood bicycle trips. There are also opportunities to access recreational resources, employment, schools and public services throughout the City. As described in the Bicycle Plan, unique City resources, such as Golden Gate Park, Crissy Field, the Presidio, Ocean Beach, Lake Merced, Candlestick Point Recreation Area, John McLaren Park, and the Golden Gate Bridge provide bicycle-friendly recreation opportunities in or near most neighborhoods. Commercial activities and employment districts are scattered across the City, attracting bicycle commuters and creating many bicycle-friendly shopping opportunities. Major public buildings, such as City Hall and the Main Library, are near the center of the City where traffic and parking are difficult; consequently, a comprehensive network of bicycle facilities provides another viable option to access these public services.

San Francisco has approximately 740,000 residents within approximately 47 square miles and an average population density of 15,700 persons per square mile. According to the Bicycle Plan, San Francisco has the highest bicycle-to-work mode share of major US cities having more than 500,000 inhabitants. According to the US Census Bureau American Community Survey 2006, 2.5 percent of all San Francisco residents cycle to work, five times the national average of 0.5 percent, and about three times the state average of 0.8 percent.[4] According to the Rides for Bay Area Commuters 2003 Commute Profile, 22 percent of all Bay Area residents surveyed consider bicycling a viable option for their commute choice, while 32 percent of those surveyed cited that travel distance was the greatest obstacle for them to bicycle to work.[5] The average

[4] October 2003 Commuter Profile, accessed online at http://rideshare.511.org/research/ commuter profile2003.asp on February 11, 2008.

[5] October 2003 Commuter Profile, accessed online at http://rideshare.511.org/research/ commuter profile2003.asp on February 11, 2008.

San Francisco resident travels 10 miles to work in 29 minutes and three out of four residents live and work in the City.

The City's topography and high traffic volumes are among the existing obstacles to bicycle use. San Francisco's densely built urban environment sometimes constrains the ability to provide exclusive right-of-way to many competing transportation modes, including pedestrians, motor vehicles, transit, and bicyclists. When transportation-related improvements are made, the impacts to other modes must be taken into consideration and balanced with the overall transportation system in the City.

C. PROJECT CHARACTERISTICS

PROJECT FEATURES

The Proposed Project, the San Francisco Bicycle Plan (Bicycle Plan), identifies gaps in the bicycle route network and provides for transportation network improvement Projects to address these gaps and otherwise improve bicycle movement and safety in and around the City and County of San Francisco. The Bicycle Plan also includes policy goals, objectives, and actions to support these improvements, and minor and long-term improvements to the bicycle route network. In addition, the Proposed Project would include amendments to the *General Plan,* the *Planning Code,* and the *Transportation Code* to reflect the Bicycle Plan or implement its policies.

In addition to the overall goal of increasing safe bicycle use, the Bicycle Plan identifies eight major goals: (1) refine and expand the existing bicycle route network; (2) ensure plentiful, high-quality bicycle parking; (3) expand bicycle access to transit and bridges; (4) educate the public about bicycle safety; (5) improve bicycle safety through targeted enforcement; (6) promote and encourage safe bicycling; (7) adopt bicycle-friendly practices and polices; and (8) prioritize and increase bicycle funding.

The Bicycle Plan sets objectives and identifies policy changes to the existing 1997 Bicycle Plan that would further enhance and encourage bicycling within the City. It establishes a framework for the continued development and implementation of future bicycle route network improvements that may be required in order to meet the City's goals of improving and increasing bicycle travel within the City. Adoption of the Bicycle Plan would also satisfy California State funding requirements and enhance the image of San Francisco as a City supporting the benefits of bicycling by providing safe and accessible bicycle facilities.

The existing bicycle route network and potential improvements were initially analyzed in April 2005, yet have been, and continue to be, subject to further refinement based upon modifications

that the SFMTA Board of Directors has authorized and the project-level analysis provided in this environmental review process. Figure IV.B.1-1: Project Location and Site Plan, p. IV.B-5, graphically illustrates proposed improvements to the bicycle route network. The Site Plan shows the location of the existing bicycle route network (both inside and outside the City's jurisdiction), as well as the location of proposed near-term improvements, long-term improvements, and minor improvements.

EXISTING BICYCLE ROUTE NETWORK

As shown in Figure IV.B.1-1, Project Location and Site Plan, p. IV.B-5, the existing San Francisco bicycle route network includes bicycle routes in the public right-of-way and on some park land both within and outside of the City's jurisdiction, as described above. Bicycle routes that are outside of the City's permitting jurisdiction are not subject to the City's review and approval procedures. However, these routes form part of the San Francisco bicycle route network; therefore, they will be included as part of the existing conditions for the purposes of this analysis.

In addition, there are two areas in San Francisco in which specific proposed bicycle routes received environmental clearance and were approved prior to the 2005 Bicycle Plan, but these improvements have not yet been constructed. Those areas are the Redevelopment Areas at Phase I of the Hunters Point Shipyard and at Mission Bay. Construction of these bicycle routes is expected to occur, and these routes have also been included as part of the existing conditions for the purposes of this analysis.

PROJECT-LEVEL REVIEW

This EIR provides project-level CEQA review for specific near-term physical improvements to portions of the bicycle route network where sufficient project detail is available to allow for such environmental review. No further environmental analysis would be required to implement these improvements.

The following near-term improvements could be implemented within the next five years and are specifically evaluated as part of the Proposed Project (see Appendix B, Near-term Improvement Project Drawings, for project drawings).

PROJECT 1-1: BROADWAY BICYCLE LANES, POLK STREET TO WEBSTER STREET

Project 1-1 would involve the installation of Class II bicycle lanes in both directions on Broadway between Polk Street and Webster Street. Project 1-1 is divided into three segments.

Segment I would extend on Broadway from Polk Street to Van Ness Avenue and would install Class II bicycle lanes in both directions. The proposal for Segment I would remove approximately 14 parking spaces on the south side of the street. Also, between Larkin Street and Van Ness Avenue, this proposal would change the existing Tow-Away No Stopping 4:00 p.m. to 6:00 p.m. regulation along the north side of Broadway to a Tow-Away Lane Must Turn Right 4:00 p.m. to 6:00 p.m. regulation.

Segment II would extend on Broadway from Van Ness Avenue to Franklin Street and would install Class II bicycle lanes in both directions. The proposal for Segment II would remove a travel lane in the westbound direction of Broadway from approximately 100 feet west of Van Ness Avenue to Franklin Street, remove a travel lane in the eastbound direction from Franklin Street to approximately 280 feet easterly, and add a two-way center left turn lane from Franklin Street to approximately 140 feet easterly. The proposal for Segment II would remove approximately 12 parking spaces on the south side of the street.

Segment III would extend on Broadway from Franklin Street to Webster Street and would install Class II bicycle lanes in both directions. The proposal for Segment III would remove one travel lane in both directions and add a two–way center left-turn lane. No parking removal would be required along this segment.

PROJECT 1-2: BROADWAY TUNNEL SIGNAGE IMPROVEMENTS

Project 1-2 would involve the installation of an electronic bicycle warning sign with lighted beacons at the eastbound approach of the Broadway Tunnel to alert motorists when bicyclists are present in the tunnel. Sharrows[6] would be added to the existing Class III bicycle route within the tunnel. The proposed sign would be activated by a pushbutton and a loop detector, which would be located near the intersection of Larkin Street. The proposed sign would be mounted on the Hyde Street overpass approximately 400 feet east of Larkin Street.

Project 1-2 would also involve the installation of a warning sign advising westbound bicyclists not to use the Broadway tunnel. The sign would route cyclists onto the Broadway frontage road, where sharrows would be added to the existing Class III bicycle route.

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[6] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/ CAMUTCD-Part 9.pdf.

PROJECT 1-3: NORTH POINT STREET BICYCLE LANES, THE EMBARCADERO TO VAN NESS AVENUE

Project 1-3 would involve the installation of Class II bicycle lanes in both directions on North Point Street between The Embarcadero and Van Ness Avenue.

Project 1-3 would remove one westbound travel lane on North Point Street between Stockton Street and Van Ness Avenue, and remove one eastbound travel lane between Stockton Street and The Embarcadero. Project 1-3 would lengthen bus zones along North Point Street and would eliminate the bus zones in both directions at Larkin Street to minimize transit delays. Parking changes to accommodate bus zone changes would result in the net loss of one parking space.

PROJECT 2-1: 2ND STREET BICYCLE LANES, KING STREET TO MARKET STREET

Project 2-1 would involve the installation of Class II and Class III bicycle facilities in both directions on 2nd Street between King and Market Streets. Project 2-1 includes two design options:

- **Option 1**
  Option 1 would add Class II bicycle lanes on 2nd Street in both directions between King Street and Market Street, except in the following segments: Northbound approaching Market Street (mid-block between Stevenson Street and Market Street), northbound between Bryant Street and Harrison Street, and southbound approaching King Street (mid-block between Townsend Street and King Street). Sharrows[7] would be added to the existing Class III bicycle route along these segments.

  Option 1 would remove one southbound travel lane between Market Street and Mission Street, remove one travel lane in both directions between Mission Street and Harrison Street, remove one northbound travel lane between Townsend Street and Harrison Street, add a northbound right-turn pocket at Mission Street, add northbound left-turn pockets at Mission Street, Howard Street, and Harrison Street, add southbound right-turn pockets at Mission Street, Howard Street, and Harrison Street, and add southbound left-turn pockets at Mission Street, Folsom Street, and Harrison Street.

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[7] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/traffops/signtech/mutcdsupp/pdf/camutcd/CAMUTCD-Part9.pdf

Option 1 would remove 64 parking spaces on the east side and 33 parking spaces on the west side of 2nd Street. The anticipated parking loss would include both metered and un-metered spaces, metered and un-metered commercial loading spaces, passenger loading spaces, accessible parking spaces, and metered motorcycle spaces.

- **Option 2**
  Option 2 would add Class II bicycle lanes on 2nd Street in both directions between King Street and Market Street, except in the following segments: Northbound approaching Market Street (mid-block between Stevenson Street and Market Street), northbound between Bryant Street and Harrison Street, and southbound approaching King Street (mid-block between Townsend Street and King Street). Sharrows would be added to the existing Class III bicycle route along these segments.

  Option 2 would remove one southbound travel lane between Market Street and Mission Street, remove one travel lane in both directions between Mission Street and Harrison Street, remove one southbound travel lane between Harrison Street and Townsend Street, add a northbound right-turn pocket at Mission Street, add northbound left-turn pockets at Mission Street, Howard Street, and Harrison Street, add southbound right-turn pockets at Mission Street, Howard Street, and Harrison Street, and add southbound left-turn pockets at Mission Street, Folsom Street, and Harrison Street.

  Option 2 would remove 64 parking spaces on the east side and 24 parking spaces on the west side of 2nd Street. The anticipated parking loss would include both metered and un-metered spaces, metered and un-metered commercial loading spaces, passenger loading spaces, accessible parking spaces, and metered motorcycle spaces.

PROJECT 2-2: 5TH STREET BICYCLE LANES, MARKET STREET TO TOWNSEND STREET

Project 2-2 would involve the installation of Class II and Class III bicycle facilities in both directions on 5th Street between Market Street and Townsend Street. Project 2-2 includes two design options:

- **Option 1**
  Option 1 would add Class II bicycle lanes on 5th Street in both directions between Market Street and Townsend Street, except in the following segments: both directions between Market Street and Mission Street and between Howard Street and Tehama Street. Sharrows would be added to the existing Class III bicycle route along these segments.

Option 1 would remove one northbound travel lane between Harrison Street and Howard Street and between Townsend Street and Bryant Street, add a northbound right-turn pocket at Folsom Street, add northbound left-turn pockets at Howard Street, Harrison Street, and Brannan Street, and add southbound right-turn pockets at Howard Street, Harrison Street, and Brannan Street.

Option 1 would remove 13 parking spaces on the east side and 27 parking spaces on the west side of 5th Street. The anticipated parking loss would includes both metered and un-metered spaces, metered and un-metered commercial loading spaces, passenger loading spaces, accessible parking spaces, and metered motorcycle spaces.

- **Option 2**

  Option 2 would add Class II bicycle lanes on 5th Street in both directions between Market Street and Townsend Street, except in the following segments: both directions between Market Street and Mission Street, both directions between Folsom Street and approximately 100 feet northerly and northbound between Harrison Street and approximately 100 feet northerly. Sharrows would be added to the existing Class III bicycle route along these segments.

  Option 2 would remove one northbound travel lane between Townsend Street and Brannan Street, remove one southbound travel lane between Natoma Street and Folsom Street, remove one southbound travel lane between Harrison Street and Bryant Street, add a northbound left-turn pocket at Brannan Street, add southbound right-turn pockets at Howard Street and Brannan Street, and add a southbound left-turn pocket at Folsom Street.

  Option 2 would remove three parking spaces on the east side and 68 parking spaces on the west side of 5th Street. The anticipated parking loss would include both metered and un-metered spaces, metered and un-metered commercial loading spaces, passenger loading spaces, accessible parking spaces, and metered motorcycle spaces.

PROJECT 2-3: 14TH STREET BICYCLE LANE, DOLORES STREET TO MARKET STREET

Project 2-3 was partially implemented on March 27, 2006 prior to the Bicycle Plan injunction. Project 2-3 involved adding a Class II bicycle lane on eastbound 14th Street between Market Street and Dolores Street and the conversion of 14th Street from two-way operation to one-way eastbound operation between Market Street and Dolores Street.

Although Project 2-3 has already been implemented, a second design option is being evaluated in the Bicycle Plan EIR. Project 2-3 includes two design options:

- **Option 1**
  Option 1, implemented prior to the Bicycle Plan injunction, involved converting 14th Street from two-way operation to one-way eastbound operation between Market Street and Dolores Street, and installing an eastbound bicycle lane. Option 1 included minor modifications to the existing median island at the intersection of 14th Street and Market Street. Further modifications to this median island proposed under Option 1, but not yet implemented, include connecting it to the existing sidewalk on the southeast corner of the intersection, in order to prevent vehicles traveling westbound on 14th Street from accessing Market Street, and to reduce the crossing distance for pedestrians crossing the east side of 14th Street at Market Street.

- **Option 2**
  Option 2 would involve restoring this block of 14th Street to two-way operation, removing one eastbound travel lane and installing an eastbound Class II bicycle lane between Market Street and Dolores Street.

PROJECT 2-4: 17TH STREET BICYCLE LANES, CORBETT AVENUE TO KANSAS STREET, INCLUDING CONNECTIONS TO THE 16TH STREET BART STATION VIA HOFF STREET OR VALENCIA STREET, AND 17TH STREET TO DIVISION STREET VIA POTRERO AVENUE

Project 2-4 would involve the installation of Class II and Class III bicycle facilities primarily on 17th Street between Corbett Avenue and Kansas Street, with several possible branches onto adjacent streets.

The primary component of Project 2-4 is located on 17th Street and is divided into three sections: West End (Corbett Avenue to Church Street), Center Segment (Church Street to Potrero Avenue), and East End (Potrero Avenue to Kansas Street).

All options for Project 2-4 would provide an enhanced connection to the 16th Street BART Station by adding a new Class III bicycle route and sharrows on Hoff Street between 16th Street and 17th Street and on 16th Street between Mission and Valencia Streets in both directions. All options for Project 2-4 would also include minor striping and signage improvements on 17th Street between Corbett Avenue and Market Street. Additionally, all options for Project 2-4 would add a new bicycle route and Class II bicycle lanes on Potrero Avenue in both directions between 17th Street and Division Street by removing one travel lane in both directions between

17th Street and Division Street and adding a two-way center left turn lane between 17th Street and Alameda Street.

The West End section of 17th Street includes two design options:

Both West End options would add sharrows to the existing Class III bicycle route on eastbound 17th Street between Corbett Avenue and Eureka Street, and would add a Class II bicycle lane in the westbound direction on 17th Street between Castro Street and Corbett Avenue by removing three parking spaces.

- **Option 1**
  West end Option 1 would add sharrows to the existing Class III bicycle route in both directions on 17th Street between Castro and Hartford Streets and add Class II bicycle lanes in both directions on 17th Street between Hartford and Church Streets by narrowing travel lanes. West End Option 1 would remove approximately two parking spaces on each side of 17th Street near Church Street.

- **Option 2**
  West End Option 2 would move the existing westbound segment of Route #40 on 17th Street from Sanchez to Market Streets onto a new proposed route in the northbound direction on Sanchez Street from 17th to 16th Streets, and in the westbound direction on 16th Street from Sanchez to Market Streets. West End Option 2 would add sharrows on these segments of Sanchez and 16th Streets. West End Option 2 would add a westbound Class II bicycle lane on 17th Street between Church and Sanchez Streets, and would add sharrows in the eastbound direction on the existing 17th Street Class III bicycle route between Sanchez Street and Church Street. West End Option 2 would remove approximately two parking spaces on the north side of 17th Street near Church Street.

The Center Segment of 17th Street includes two design options:

- **Option 1**
  Center Segment Option 1 would add Class II bicycle lanes on 17th Street in both directions between Church Street and Potrero Avenue. Center Segment Option 1 would not involve removing any travel lanes or parking between Church Street and Harrison Street.

- **Option 2**
  Center Segment Option 2 would add a Class II bicycle lane in the westbound direction between Harrison Street and Church Street, and add sharrows in the eastbound

direction on the existing Class III bicycle route between Church Street and Harrison Street. Center Segment Option 2 would not involve removing any travel lanes or parking between Church Street and Harrison Street.

Both Center Segment Options 1 and 2 would add Class II bicycle lanes on 17th Street between Harrison Street and Potrero Avenue in both directions by narrowing travel lanes and by removing approximately 49 parking spaces on the north side of 17th Street. Some parking spaces would be added on adjacent streets by converting parallel parking to perpendicular parking.

The East End section of 17th Street includes two design options:

- **Option 1**
  East End Option 1 would add Class II bicycle lanes on 17th Street in both directions between Kansas Street and Potrero Avenue by removing approximately 37 parking spaces on the south side of 17th Street. East End Option 1 would also add Class II bicycle lanes on Kansas Street in both directions between 16th and 17th Streets by narrowing travel lanes.

- **Option 2**
  East End Option 2 would move the existing Bicycle Route 40 off of 17th Street between Kansas Street and Potrero Avenue onto Potrero Avenue between 16th Street and 17th Street, and onto 16th Street between Kansas Street and Potrero Avenue. East End Option 2 would add bicycle lanes on 16th Street in both directions between Kansas Street and Potrero Avenue by removing one westbound travel lane between San Bruno Avenue and Potrero Avenue. On the eastbound 16th Street approach to Potrero Avenue, East End Option 2 would establish a "Right Lane Must Turn Right Except for Muni" regulation.

PROJECT 2-5: BEALE STREET BICYCLE LANE, BRYANT STREET TO FOLSOM STREET

Project 2-5 would add a new route to the City's existing bicycle route network.

Project 2-5 would involve the installation of a Class II bicycle lane in the southbound direction on Beale Street between Folsom Street and Bryant Street.

The reopening of Beale Street as a through street in 2006, after it was closed as a post-9/11 security measure for the Bay Bridge, involved converting the street from one-way southbound operation to two-way operation, with one travel lane in both directions. This conversion resulted in parking layout changes on both sides of the street with a net loss of 42 parking

spaces. Project 2-5 would add a southbound Class II bicycle lane between Folsom Street and Bryant Street and would not involve any travel lane or parking removal.

PROJECT 2-6: DIVISION STREET BICYCLE LANES, 9TH STREET TO 11TH STREET

Project 2-6 would involve the installation of Class II bicycle lanes in both directions on Division Street between 9th Street and 11th Street. Project 2-6 includes two design options:

- **Option 1**
  Option 1 would remove a travel lane in the eastbound direction from approximately 200 feet east off 11th Street to 10th Street, and in the westbound direction, from approximately 200 feet west of 10th Street to 11th Street and remove approximately 20 total parking spaces between 10th and 11th Streets. Project 2-6 would also narrow travel lanes between 9th and 10th Streets, and add Class II bicycle lanes in both directions between 9th and 11th Streets.

- **Option 2**
  Option 2 would remove approximately 65 total parking spaces between 10th and 11th Streets, narrow travel lanes between 9th and 10th Streets, and add Class II bicycle lanes in both directions between 9th Street and 11th Street.

PROJECT 2-7: FREMONT STREET BICYCLE LANE, FOLSOM STREET TO HARRISON STREET

Project 2-7 would add a new route to the City's existing bicycle route network.

Project 2-7 would involve the installation of Class II and Class III bicycle facilities in both directions on Fremont Street between Howard Street and Harrison Street.

Project 2-7 would add a new Class III bicycle route with sharrows, on northbound Fremont Street between Harrison Street and Howard Street, and would add a Class II bicycle lane on southbound Fremont Street between Folsom Street and Harrison Street by narrowing northbound travel lanes and removing one southbound travel lane. Sidewalks on both sides of Fremont Street are proposed to be widened to 15′ in accordance with the already approved Rincon Hill Area Plan, an area plan of the San Francisco General Plan.

PROJECT 2-8: HOWARD STREET BICYCLE LANE, EXTENSION AT 9TH STREET

Project 2-8 would involve the installation of a Class II bicycle lane in the westbound direction on Howard Street for approximately 200 feet approaching 9th Street. Project 2-8 would close an existing gap in the Howard Street bicycle lane.

Project 2-8 would change one shared through/right-turn lane on westbound Howard Street approaching 9th Street to a through-only lane, and would change an existing 200-foot tow-away 4:00 p.m. to 6:00 p.m. zone along the north side of Howard Street to a permanent tow-away zone (creating a full-time right-turn only lane in place of the existing 4:00 p.m. to 6:00 p.m. right-turn only lane). Project 2-8 would add a westbound Class II bicycle lane for approximately 200 feet east of 9th Street between a thru-lane and a right-turn only lane. Project 2-8 would remove three metered parking spaces on the north side of Howard Street.

PROJECT 2-9: HOWARD STREET BICYCLE LANE, THE EMBARCADERO TO FREMONT STREET

Project 2-9 would involve the installation of a Class II bicycle lane in the westbound direction on Howard Street between The Embarcadero and Fremont Street.

Project 2-9 would add a westbound Class II bicycle lane between The Embarcadero and Fremont Street by narrowing travel lanes in both directions on Howard Street from The Embarcadero to Steuart Street, removing one eastbound travel lane between Spear Street and Steuart Street, converting one of the two eastbound travel lanes between Main Street and Spear Street to a right-turn only lane (excepting Muni), and removing one westbound travel lane between Main Street and Fremont Street during the AM and PM peak hours. Project 2-9 would result in a gain of 17 parking spaces on the north side of Howard Street during the afternoon peak hours and a gain of 10 parking spaces during the morning peak hours. Project 2-9 also would establish a part-time bus zone on the southeast corner of Howard Street and Spear Street, which would result in a loss of four parking spaces from 6:00 a.m. to 10:00 a.m.

PROJECT 2-10: MARKET STREET AND VALENCIA STREET INTERSECTION IMPROVEMENTS

Project 2-10 would involve traffic signal modifications and installing a Class II left-turn bicycle lane on the westbound Market Street approach to the intersection.

Project 2-10 would facilitate bicycle left turns from westbound Market Street to southbound Valencia Street by adding a westbound Class II left-turn bicycle lane from Gough Street to

Valencia Street and by installing a bicycle traffic signal head at the intersection of Market Street and Valencia Street.

Project 2-10 would reduce the width of a 40-foot long section of the sidewalk along the north side of Market Street by 5 feet to create a queuing area for westbound bicyclists waiting for the signal to cross Market Street and continue onto southbound Valencia Street. The sidewalk width in this affected area would be reduced to 10 feet.

PROJECT 2-11: MARKET STREET BICYCLE LANES, 17TH STREET TO OCTAVIA BOULEVARD

Project 2-11 would involve the installation of short segments of Class II bicycle lanes in both directions on Market Street between 17th Street and Octavia Boulevard to close gaps in otherwise continuous Class II bicycle lanes. Project 2-11 includes two design options:

- **Option 1**
  Option 1 would add Class II bicycle lanes by removing right-turn lanes in the eastbound direction approaching Noe Street, Sanchez Street, and Dolores Street, and in the westbound direction approaching Church Street and Sanchez Street. In the eastbound direction, Option 1 would remove five parking spaces approaching Noe Street, five parking spaces approaching Sanchez Street, two parking spaces approaching Dolores Street, and eight parking spaces approaching Guerrero Street. In the westbound direction, Option 1 would remove seven parking spaces approaching Laguna Street, seven parking spaces approaching Buchanan Street, three parking spaces approaching Church Street, three parking spaces approaching Sanchez Street, and nine parking spaces approaching Noe Street. Option 1 would reduce the width of the sidewalk bulb-outs by 5 feet at the intersections of Market Street with Laguna Street, Buchanan Street, Noe Street and Guerrero Street.

- **Option 2**
  Option 2 would reduce the sidewalk widths approaching all of the intersections in both directions by 5 feet to add Class II bicycle lanes. Option 2 would narrow the sidewalk at certain areas from 15 feet to 10 feet, and would relocate traffic signal hardware and other sidewalk fixtures. Option 2 would remove approximately four parking spaces on the south side of Market Street near Guerrero Street.

PROJECT 2-12: MARKET STREET BICYCLE LANES, OCTAVIA BOULEVARD TO VAN NESS AVENUE

Project 2-12 was implemented on May 15, 2006 prior to the Bicycle Plan injunction. Project 2-12 involved the installation of Class II and Class III bicycle facilities in both directions on Market Street between Octavia Boulevard and Van Ness Avenue.

A Class II bicycle lane was added in the westbound direction on Market Street between Van Ness Avenue and Octavia Boulevard and in the eastbound direction on Market Street between Gough Street and 12th Street. Class II bicycle lanes existed on eastbound Market Street between Octavia Boulevard and Valencia Street and between 12th Street and Van Ness Avenue prior to the implementation of Project 2-12. Project 2-12 involved adding sharrows to the existing Class III bicycle route on eastbound Market Street between Valencia Street and Gough Street. One westbound travel lane was removed between Van Ness Avenue and Rose Street to add a Class II bicycle lane in the westbound direction. Thirty metered parking spaces and six metered motorcycle spaces were removed from Market Street between 12th Street and Octavia Boulevard as part of Project 2-12. Six metered parking spaces were added to the north side of Market Street between Franklin Street and Rose Street. Twenty metered parking spaces were added on 12th Street between Market Street and Van Ness Avenue by converting parallel parking spaces to perpendicular parking spaces. Four metered parking spaces were added to the east side of Gough Street between Market Street and Colton Street by converting parallel parking spaces to angle parking spaces and by removing one northbound travel lane on Gough Street approaching Market Street.

PROJECT 2-13: MCCOPPIN STREET BICYCLE PATH, MARKET STREET TO VALENCIA STREET

Project 2-13 would involve the addition of a bi-directional Class I bicycle path connecting the intersection of Market Street and Octavia Boulevard to the western terminus of McCoppin Street, and the addition of Class II bicycle lanes on McCoppin Street in both directions between Valencia Street and the western terminus of McCoppin Street.

The construction of the Class I bicycle path was completed on September 9, 2005 as part of the Central Freeway Project. Approximately four parking spaces would be removed from the north side of McCoppin Street between Valencia Street and the western terminus of McCoppin Street to accommodate the Class II bicycle lanes.

PROJECT 2-14: MCCOPPIN STREET BICYCLE LANE, GOUGH STREET TO VALENCIA STREET

Project 2-14 would involve the installation of a Class II bicycle lane in the westbound direction on McCoppin Street between Gough Street and Valencia Streets.

Project 2-14 would remove one westbound travel lane on McCoppin Street from Gough Street to 125' east of Valencia Street and remove approximately seven parking spaces on the north side of McCoppin Street near Valencia Street. Three parking spaces would be added on the south side of McCoppin Street between Jessie Street and Stevenson Streets by converting parallel parking to perpendicular parking. Project 2-14 would result in a net loss of approximately four parking spaces.

PROJECT 2-15: OTIS STREET BICYCLE LANE, GOUGH STREET TO SOUTH VAN NESS AVENUE

Project 2-15 would involve the installation of a Class II bicycle lane in the westbound direction on Otis Street between South Van Ness Avenue and Gough Street.

Project 2-15 would not involve removal of travel lanes or parking, but would narrow existing travel lanes.

PROJECT 2-16: TOWNSEND STREET BICYCLE LANES, 8TH STREET TO THE EMBARCADERO

Project 2-16 would involve the installation of Class II and Class III bicycle facilities in both directions on Townsend Street between 8th Street and The Embarcadero.

Sharrows would be added in both directions on Townsend Street between 2nd Street and The Embarcadero, which is an existing Class III bicycle route. The existing front-in-angled parking spaces on both sides of the street would be converted to back-in-angled parking.

Project 2-16 would add Class II bicycle lanes on Townsend Street in both directions between 2nd Street and 4th Street. Project 2-16 would remove one travel lane in both directions between 2nd Street and 4th Street and add a two-way center left-turn lane between 2nd Street and 4th Street, including left-turn pockets eastbound at 2nd Street and 3rd Street and westbound at 4th Street. Project 2-16 would add parking along a portion of the south side of Townsend Street between 3rd Street and Lusk Street.

Project 2-16 would add Class II bicycle lanes on Townsend Street in both directions between 7th Street and 8th Street by narrowing travel lanes and adding a right-turn pocket on eastbound Townsend Street approaching 7th Street. No travel lane or parking removals would be required along this segment.

The segment of Project 2-16 between 4th Street and 7th Street includes two design options:

Both options would add Class II bicycle lanes on Townsend Street in both directions between 4th Street and 7th Street by narrowing travel lanes and reconfiguring existing parking. Both options would provide space for the construction of continuous sidewalks on both sides of Townsend Street between 4th and 7th Streets, and would require travel lane configuration changes on 4th Street approaching Townsend Street, including the removal of one northbound right-turn lane, the conversion of one southbound left-turn lane into a thru-lane, and the conversion of one southbound thru-lane into a right-turn lane.

- **Option 1**
  Option 1 one would convert the existing front-in-angled parking on the south side of Townsend Street to back-in-angled parking between 4th Street and 7th Street and would convert the existing perpendicular parking on the north side of Townsend Street to parallel parking between 4th Street and 7th Street. Option 1 would result in a loss of approximately 80 parking spaces and six part-time parking spaces that are currently restricted to truck loading during certain hours.

- **Option 2**
  Option 2 would convert the existing angled parking on the south side of Townsend Street to parallel parking between 4th Street and 7th Street and would convert the existing parallel and perpendicular parking on the north side of Townsend Street to back-in-perpendicular parking between 4th Street and Townsend Street, except for approximately 200 feet east of 7th Street, which would remain parallel parking. Option 2 would result in a loss of approximately 26 parking spaces and a gain of 16 part-time parking spaces that are currently restricted to truck loading during certain hours.

PROJECT 3-1: FELL STREET AND MASONIC AVENUE INTERSECTION IMPROVEMENTS

In response to the large number of reported collisions and in order to improve pedestrian and bicycle safety at the intersection of Fell Street and Masonic Avenue, the City requested relief from the injunction to implement Project 3-1 prior to the completion of the Bicycle Plan EIR. In May 2008, the court granted the City's motion to modify the injunction so as to allow

implementation of the recommended safety improvements at the intersection of Fell Street and Masonic Avenue. SFMTA has implemented Project 3-1 as of September 16, 2008.

The Fell/Masonic intersection traffic signal phasing would be changed to provide exclusive phases for westbound Fell Street left turns and for Panhandle Pathway traffic. Pedestrians and bicyclists crossing the south leg of Masonic Avenue would receive the WALK/GREEN BIKE signal during the Fell Street through traffic phase. During the WALK/GREEN BIKE phase to cross Masonic Avenue on the south side of Fell Street, traffic on westbound Fell Street wishing to make a left turn onto southbound Masonic Avenue would receive a red left-turn arrow signal, restricting them from making this left turn. Before the Fell Street through phase, vehicles on Fell Street waiting to turn left onto Masonic Avenue would receive a green left-turn arrow, while pedestrians and bicyclists waiting to use the south crosswalk across Masonic Avenue would see a solid DON'T WALK/RED BIKE signal.

PROJECT 3-2: MASONIC AVENUE BICYCLE LANES, FELL STREET TO GEARY BOULEVARD

Project 3-2 would involve the installation of Class II and Class III bicycle facilities in both directions on Masonic Avenue between Fell Street and Geary Boulevard. Project 3-2 is divided into four segments.

Segment I would extend from Fell Street to Hayes Street and includes two design options:

- **Option 1**
  Segment I Option 1 would install a Class II bicycle lane in both directions by removing one travel lane in the northbound direction, and two travel lanes in the southbound direction. PM tow-away would be rescinded on the west side of the street, resulting in the increase of five parking spaces during the PM peak. A two-way center turn lane would also be installed.

- **Option 2**
  Segment I Option 2 would install Class II bicycle lanes in both directions by removing a travel lane in both directions, removing approximately six parking spaces, and rescinding the afternoon tow-away zone. This option would result in a gain of approximately five parking spaces during afternoon hours.

Segment II would extend from Hayes Street to Grove Street and includes two design options:

- **Option 1**
  Segment II Option 1 would install a center turn lane with floating bicycle lanes in both directions. During off-peak hours, there would be one travel lane in both directions. During the AM peak, there would be two travel lanes in the northbound direction, and one travel lane in the southbound direction. During the PM peak, there would be two travel lanes in the southbound direction, and one travel lane in the northbound direction. Existing tow-away restrictions would remain.

- **Option 2**
  Segment II Option 2 would convert one travel lane in both directions into a transit/bicycle-only lane from 7:00 a.m. to 6:00 p.m., Monday through Friday, by removing approximately 14 parking spaces during this time period. Segment II Option 2 would add sharrows[8] to the existing Class III bicycle route that would be in effect at all other times. Segment II Option 2 reduces the travel lanes and parking from 7:00 a.m. to 6:00 p.m., Monday through Friday only.

Segment III would extend from Grove Street to Anza/O'Farrell Streets and includes two design options:

- **Option 1**
  Segment III Option 1 would be similar to Segment II Option 1.

- **Option 2**
  Segment III Option 2 would be similar to Segment II Option 2, but would remove 107 parking spaces on both sides of the street.

Segment IV would extend from Anza/O'Farrell Streets to Geary Boulevard and includes two design options:

- **Option 1**
  Segment IV Option 1 would install Class II bicycle lanes in both directions by removing a travel lane in one direction and approximately 15 parking spaces. This option would

[8] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/ CAMUTCD-Part 9.pdf.

establish a "Tow-Away Lane Must Turn Right" regulation from 4:00 p.m. to 7:00 p.m., Monday through Friday.

- **Option 2**
  Segment IV Option 2 would install Class II bicycle lanes in both directions by removing approximately 25 parking spaces. This option does not remove any travel lanes.

PROJECT 3-3: MCALLISTER STREET BICYCLE LANE, MARKET STREET TO MASONIC AVENUE

Project 3-3 would involve the installation of Class II and Class III bicycle facilities in the westbound direction on McAllister Street between Market Street and Masonic Avenue. Project 3-3 is divided into three segments.

Segment I would extend from Market Street to Franklin Street and would add sharrows to the existing Class III bicycle route in the westbound direction. The proposal for Segment I would not involve travel lane or parking removal.

Segment II would extend from Franklin Street to Fillmore Street and would install a Class II bicycle lane in the westbound direction. The proposal for Segment II would not involve travel lane or parking removal. Project 3-3 would shift the existing centerline south by approximately two and one-half feet.

Segment III would extend from Fillmore Street to Masonic Avenue and would add sharrows to the existing Class III bicycle route in the westbound direction. The proposal or Segment III would not involve travel lane or parking removal.

In addition, sharrows would be added to northbound Charles J. Brenham Place from Market Street to McAllister Street, and this block would be added to existing Bicycle Route #20. This block would aid in the connection from existing Bicycle Route #23 on 7th Street to the proposed improvements on McAllister Street.

PROJECT 3-4: POLK STREET BICYCLE LANE, MARKET STREET TO MCALLISTER AVENUE

This project would involve moving a portion of the existing northbound Bicycle Route #25 from Market Street, Larkin Street, and McAllister Street onto Polk Street.

This project would involve the installation of a Class II bicycle lane in the northbound direction on Polk Street between Market Street and McAllister Street. A segment of this Class II bicycle

lane would be contra-flow (it would allow northbound bicycle travel on an otherwise one-way southbound street). Polk Street is a one-way southbound street between Grove Street and Market Street. Polk Street (Dr. Carlton B. Goodlett Place) is a two-way street between Grove Street and McAllister Street.

This project would install a northbound Class II bicycle lane between McAllister Street and Grove Street, by narrowing travel lanes. The existing angled parking on the east side of Polk Street would be converted from front pull-in to back-in.

The segment between Grove Street and Market Street includes two design options.

- **Option 1**
  Option 1 would establish a northbound contra-flow Class II bicycle lane on the east side of Polk Street from Market Street to Grove Street. This bicycle lane would be separated from traffic by a concrete median. The concrete median would have openings where truck loading docks currently exist, on the east side of Polk Street north and south of Hayes Street. Option 1 would narrow travel lanes, narrow sidewalk and median widths on Polk Street near Market Street, remove 11 metered parking spaces, and remove one metered loading space. The existing white zone on the east side of Polk Street between Market Street and Hayes Street would be moved from the curb to the west side of the proposed median. Option 1 would remove approximately 12 parking spaces.

- **Option 2**
  Option 2 would convert the segment of Polk Street, from Market Street to Hayes Street, to two-way operation; narrow travel lanes; narrow sidewalk and median widths; and add a northbound travel lane on Polk Street, between Market Street and Hayes Street. Northbound Polk Street traffic would be forced to turn left onto westbound Hayes Street, except for bicycle traffic. Option 2 would add sharrows to the new northbound travel lane between Market Street and Hayes Street, and add a northbound Class II bicycle lane approaching Hayes Street. One metered loading space would be removed. The design for Option 2 between Hayes Street and Grove Street would be the same as for Option 1, including the removal of 11 metered parking spaces. Option 2 would remove approximately 12 parking spaces.

PROJECT 3-5: SCOTT STREET BICYCLE LANE, FELL STREET TO OAK STREET

Project 3-5 would involve the installation of a Class II left-turn bicycle lane in the northbound direction on Scott Street between Oak Street and Fell Street. Project 3-5 includes two design options:

- **Option 1**
  Option 1 would add a northbound Class II left-turn bicycle lane by removing the left-turn lanes on northbound Scott Street approaching Fell Street and on southbound Scott Street approaching Oak Street. No parking spaces would be removed under Option 1.

- **Option 2**
  Option 2 would add a northbound Class II left-turn bicycle lane by narrowing travel lanes and removing approximately three parking spaces from the west side of Scott Street between Fell Street and Oak Street. The existing left-turn lanes approaching Fell Street and Oak Street would not change under Option 2.

PROJECT 3-6: THE "WIGGLE" IMPROVEMENTS, DUBOCE AVENUE BETWEEN MARKET AND STEINER STREETS, STEINER STREET BETWEEN DUBOCE AVENUE AND WALLER STREET, WALLER STREET BETWEEN STEINER AND PIERCE STREETS, PIERCE STREET BETWEEN WALLER AND HAIGHT STREETS, HAIGHT STREET BETWEEN PIERCE AND SCOTT STREETS, AND SCOTT STREET BETWEEN HAIGHT AND FELL STREETS.)

Project 3-6 was implemented on May 13, 2006 prior to the Bicycle Plan injunction. Project 3-6 added sharrows in both directions to portions of existing Bicycle Route 30 in the following locations: Duboce Avenue between Market Street and Steiner Street, Steiner Street between Duboce Avenue and Waller Street, Waller Street between Steiner Street and Pierce Street, Pierce Street between Waller Street and Haight Street, and Haight Street between Pierce Street and Scott Street. On Haight Street between Pierce Street and Scott Street, travel lane widths were also modified. On Scott Street between Haight Street and Fell Street, sharrows were added to the existing Class III bicycle route in the southbound direction. On northbound Scott Street between Haight Street and Oak Street, a Class II bicycle lane was added to the existing Class III bicycle route. On northbound Scott Street at Oak Street, a bicycle box was added, and a "No Turn On Red" restriction was added. No travel lane or parking removals was required to implement Project 3-6.

PROJECT 4-1: 16TH STREET BICYCLE LANES, 3RD STREET TO TERRY FRANCOIS BOULEVARD

Project 4-1 would add a new route to the City's existing bicycle route network on 16th Street between Illinois Street and Terry François Boulevard.[9]

Project 4-1 would involve the installation of Class II bicycle lanes in both directions on 16th Street between 3rd Street and Illinois Street by narrowing travel lanes. Class II bicycle lanes would be added in both directions on 16th Street between Illinois Street and Terry François Boulevard when that segment of 16th Street is constructed.

Project 4-1 would not involve travel lane or parking removal.

PROJECT 4-2: CARGO WAY BICYCLE LANES, 3RD STREET TO JENNINGS STREET

Project 4-2 would add a new route to the City's existing bicycle route network.

Project 4-2 would involve the installation of Class I or Class II bicycle facilities on Cargo Way between 3rd Street and Jennings Street. The resulting bicycle facilities would connect to the existing Bay Trail at the eastern terminus of Cargo Way at Heron's Head Park. Project 4-2 includes two design options:

- **Option 1**
  Option 1 would install Class II bicycle lanes in both directions by removing approximately 160 under-utilized parking spaces on the south side of Cargo Way. Option 1 would not involve travel lane removal.

- **Option 2**
  Option 2 would involve the installation of a Class I two-way bicycle path on the south side of Cargo Way between Illinois Street and Jennings Street. Option 2 would not involve travel lane or parking removal.

Both Options 1 and 2 would install a Class II left-turn bicycle lane on eastbound Cargo Way approaching Illinois Street and Amador Street.

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[9] Bicycle lanes on 16th Street between 3rd Street and Terry François Boulevard were included in the Mission Bay Subsequent EIR (SEIR) dated September 17, 1988. However, the bicycle lanes included in the Mission Bay SEIR were proposed to be 6 feet in width. The bicycle lanes included in Project 4-1 are proposed to be 5 feet in width and so are included as part of this analysis.

PROJECT 4-3: ILLINOIS STREET BICYCLE LANES, 16TH STREET TO CARGO WAY

Project 4-3 would involve the installation of Class II bicycle lanes in both directions on Illinois Street between 16th Street and Cargo Way.

Project 4-3 would install Class II bicycle lanes in both directions on Illinois Street from 16th Street to Cargo Way, including a floating bicycle lane in the southbound direction between 18th and 19th Streets, by changing parking configurations. The existing perpendicular parking, mainly on the east side of the street, would be reconfigured to either back-in-angled parking or parallel parking. Project 4-3 would result in the loss of approximately 45 parking spaces on Illinois Street. Additional parking spaces would be provided on Tennessee Street, 22nd Street, and 24th Street, resulting in a net gain of approximately 99 parking spaces near the project area. One travel lane would be removed in each direction from 25th to Marin Streets. The proposed Class II bicycle lanes on Illinois Street would connect to the proposed bicycle facilities on Cargo Way via the recently completed Islais Creek Bridge.

PROJECT 4-4: INNES AVENUE BICYCLE LANES, DONAHUE STREET TO HUNTERS POINT BOULEVARD

Project 4-4 would involve the installation of Class II or Class III bicycle facilities in both directions on Innes Avenue between Donahue Street and Hunters Point Boulevard. Project 4-4 includes two design options:

- **Option 1**
  Option 1 would remove approximately 75 parking spaces on the south side of Innes Avenue from Hunters Point Boulevard to Earl Street, and install Class II bicycle lanes in both directions. From Earl Street to Donahue Street, Class II bicycle lanes would be installed by removing approximately 60 parking spaces and adding a planted median in the center of the roadway. There would be no travel lane removal associated with Option 1.

- **Option 2**
  Option 2 would be similar to Option 1, except for the segment from Hunters Point Boulevard to Earl Street, where sharrows would be added to the existing Class III bicycle route in both directions. There would be no parking or travel lane removal associated with Option 2 between Hunters Point Boulevard and Earl Street.

The two options described above are consistent with DPW led Bayview Transportation Improvement Project (BTIP). The future lane configuration on Innes Avenue depends on

whether a new football stadium for the San Francisco 49ers is built. If a new stadium is built, Innes Avenue could serve as an important access/egress route, and the Class II bicycle lanes proposed on Innes Avenue could be re-routed as either Class I or Class II bicycle facilities on a proposed new roadway (Hudson Street).

PROJECT 4-5: MISSISSIPPI STREET BICYCLE LANES, 16TH STREET TO MARIPOSA STREET

Project 4-5 would involve the installation of Class II bicycle lanes in both directions on Mississippi Street between 16th Street and Mariposa Street.

Class II bicycle lanes would be added without travel lane or parking removal.

PROJECT 5-1: 23RD STREET BICYCLE LANES, KANSAS STREET TO POTRERO AVENUE

Project 5-1 would involve the installation of Class II and Class III bicycle facilities on 23rd Street between Kansas Street and Potrero Avenue adjacent to San Francisco General Hospital.

Project 5-1 would involve the installation of a Class II bicycle lane in the eastbound direction and the addition of sharrows[10] to the existing Class III bicycle route in the westbound direction. Project 5-1 would not involve travel lane or parking removal. However, travel lanes would be narrowed to create space for the eastbound bicycle lane.

PROJECT 5-2: ALEMANY BOULEVARD BICYCLE LANES, BAYSHORE BOULEVARD TO ROUSSEAU STREET

Project 5-2 would add a new route to the City's existing bicycle route network.

Project 5-2 would involve the installation of Class II and Class III bicycle facilities in both directions on Alemany Boulevard between Bayshore Boulevard and Rousseau Street.

Project 5-2 would involve the installation of Class II bicycle lanes in both directions on Alemany Boulevard between Putnam and Rousseau Streets by removing one eastbound travel lane between Rousseau and Trumbull Streets, removing one westbound travel lane between Putnam Street and Ellsworth Street, removing parking on the north side of Alemany Boulevard between Ellsworth Street and Rousseau Street, and removing parking on the south side of Alemany

[10] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/ CAMUTCD-Part 9.pdf.

Boulevard between Rousseau Street and Putnam Street. A total of approximately 375 under-utilized parking spaces would be removed. Project 5-2 would add sharrows in both directions on Alemany Boulevard between Bayshore Boulevard and Putnam Street. Project 5-2 would add a left-turn Class II bicycle lane on eastbound Alemany Boulevard approaching Bayshore Boulevard.

PROJECT 5-3: ALEMANY BOULEVARD BICYCLE LANES, ROUSSEAU STREET TO SAN JOSE AVENUE

Project 5-3 was implemented on April 28, 2006 prior to the Bicycle Plan injunction. Project 5-3 involved the installation of a mixed Class II and Class III bicycle facility on Alemany Boulevard between Rousseau Street and San Jose Avenue.

Project 5-3 involved adding bicycle lanes on Alemany Boulevard in both directions between Rousseau Street and San Jose Avenue by removing a travel lane in each direction, except for the following segments: Northbound Alemany Boulevard between Niagara Avenue and Geneva Avenue, and southbound Alemany Boulevard between Seneca Avenue and Geneva Avenue. No travel lanes were removed along these segments, and sharrows were added to the existing Class III bicycle route along these segments. On westbound Alemany Boulevard approaching San Jose Avenue, travel lanes were narrowed to install a bicycle lane, but no westbound travel lanes were removed. On eastbound Alemany Boulevard approaching San Jose Avenue, travel lanes were narrowed to install a bicycle lane and one travel lane was converted to a right-turn only lane. Approximately two parking spaces were removed on southbound Alemany Boulevard at Ocean Avenue to create a southbound right-turn only lane.

PROJECT 5-4: BAYSHORE BOULEVARD BICYCLE LANES, CESAR CHAVEZ STREET TO SILVER AVENUE

Project 5-4 would involve the installation of Class II bicycle lanes in both directions on Bayshore Boulevard between Cesar Chavez Street and Silver Avenue. Project 5-4 would involve moving portions of existing southbound Bicycle Route #25 from Jerrold Avenue, Barneveld Avenue, Loomis Street, and Industrial Street onto Bayshore Boulevard.

Project 5-4 is divided into two segments:

Segment I would extend between Cesar Chavez Street and Industrial Street, and has two design options:

- **Option 1**
  Segment I Option 1 would install Class II bicycle lanes in both directions on Bayshore Boulevard by removing a travel lane in each direction.

- **Option 2**
  Segment I Option 2 would install Class II bicycle lanes in both directions on Bayshore Boulevard by removing parking on both sides of the street. This option would remove a total of approximately 220 parking spaces.

Segment II would extend between Industrial Street and Silver Avenue, and has two design options:

- **Option 1**
  Segment II Option 1 would install Class II bicycle lanes in both directions on Bayshore Boulevard by removing a northbound travel lane from approximately 150 feet north of Silver Avenue to Industrial Street and by removing approximately 15 parking spaces on the east side of Bayshore Boulevard between Silver Avenue and Boutwell Street.

- **Option 2**
  Segment II Option 2 would install Class II bicycle lanes in both directions on Bayshore Boulevard by removing a northbound travel lane from Helena Street to approximately 320 feet northerly and by establishing a northbound right-turn lane from 320 feet north of Helena Street to Industrial Street. This option would remove approximately 40 parking spaces on the east side of Bayshore Boulevard between Silver Avenue and Helena Street.

Both Segment II options above would remove approximately 70 under-utilized parking spaces on the west side of Bayshore Boulevard between Industrial Street and Silver Avenue.

PROJECT 5-5: CESAR CHAVEZ STREET BICYCLE LANES, I-280 TO US 101 FREEWAYS

Project 5-5 would involve the installation of Class II bicycle lanes in both directions on Cesar Chavez Street between Kansas Street (near US 101 Freeway) and Mississippi Street (near I-280 Freeway). Project 5-5 includes two design options:

- **Option 1**
  Option 1 would remove a travel lane in either the eastbound or the westbound direction and install Class II bicycle lanes in both directions. The eastbound and westbound lane removals would be analyzed separately and the least impactful scenario would be carried forward and be included in the plan. Depending on which direction is chosen

for the travel lane removal the resulting lane configuration would be: a) two lanes eastbound and one lane westbound, plus the turn lanes approaching Evans Avenue; or b) one lane eastbound and two lanes westbound, plus the turn lanes approaching Evans Avenue. Option 1 would not involve parking removal.

- **Option 2**
  Option 2 would involve the installation of Class II bicycle lanes in both directions by removing approximately 94 parking spaces on the north side of Cesar Chavez Street. The estimated parking loss does not account for existing curb cuts or red zones, therefore the actual number of parking spaces removed would likely be lower. This option would not involve travel lane removal.

PROJECT 5-6: CESAR CHAVEZ STREET/26TH STREET BICYCLE LANES, SANCHEZ STREET TO US 101

The Cesar Chavez Street section of Project 5-6 would involve the installation of Class II and Class III bicycle facilities in both directions between Hampshire Street (near US 101 Freeway) and Sanchez Street as well as street trees along this same segment.

The Cesar Chavez Street section of Project 5-6 would be divided into three segments.

Segment I of the Cesar Chavez Street section of Project 5-6 would extend between Hampshire Street and Valencia Street and includes two design options:

- **Option 1**
  Segment I Option 1 would remove one travel lane in each direction, maintain or widen the existing median, and install Class II bicycle lanes in both directions. This option would remove up to 40-45 spaces, typically at corners where bulbouts may be constructed to widen the sidewalk.

- **Option 2**
  Segment I Option 2 would remove one travel lane in each direction, remove the existing median, and install Class II bicycle lanes in both directions and a center two-way left-turn lane. This option would not involve parking removal.

Segment II of the Cesar Chavez Street section of Project 5-6 would extend between Valencia Street and Guerrero Street and includes two design options:

- **Option 1**
  Segment II Option 1 would remove one through travel lane in each direction, remove or relocate the existing median, and install Class II bicycle lanes in both directions. This option would remove 5-8 parking spaces, typically at corners where bulbouts may be constructed to widen the sidewalk.

- **Option 2**
  Segment II Option 2 would remove one through travel lane in the eastbound direction and a left turn lane in the westbound direction, maintain or widen the existing median, and install Class II bicycle lanes in both directions. This option would also install a Class II bicycle left turn lane in the eastbound intersection approach to Valencia Street. This option would not involve parking removal.

Segment III of the Cesar Chavez Street section of Project 5-6 would extend from Guerrero Street to Sanchez Street, and has two design options.

- **Option 1**
  Segment III Option 1 would install sharrows in both directions to the existing Class III bicycle route along Segment III. This option would not change the lane configuration and would not involve travel lane or parking removal.

- **Option 2**
  Segment III Option 2 would install sharrows in both directions to the existing Class III bicycle route along Segment III. This option would change the lane configuration in the eastbound intersection approach to Guerrero Street to a left turn lane and a through-right turn lane. This option would not involve travel lane or parking removal.

  The 26th Street section of Project 5-6 would establish a new Class III bicycle route with sharrows in both directions on 26th Street between Hampshire Street and Sanchez Street. Project 5-6 would result in the loss of approximately four parking spaces per block (approximately 76 total spaces), typically at the corners, where bulb-outs and chokers would be installed to calm traffic. This option would not involve travel lane removal.

PROJECT 5-7: GLEN PARK AREA BICYCLE LANES, (A) CONNECTION BETWEEN ALEMANY BOULEVARD AND SAN JOSE AVENUE AND (B) CONNECTION BETWEEN MONTEREY BOULEVARD AND SAN JOSE AVENUE

a. Connection between Alemany Boulevard and San Jose Avenue via Arlington Street, Bosworth Street, Lyell Street, Milton Street, Rousseau Street, and Still Street

Project 5-7a would add a new route to the City's existing bicycle route network on northbound Milton Street between Bosworth Street and San Jose Avenue.

Project 5-7a would involve the installation of Class II and Class III bicycle facilities along portions of existing Bicycle Route 45 and existing Bicycle Route 55 to close a gap between the existing bicycle lanes on San Jose Avenue and Alemany Boulevard on both sides of the I-280 Freeway and to provide a better connection for bicyclists to the Glen Park BART Station. Project 5-7a includes two design options:

Both options would add a southbound Class II bicycle lane on Arlington Street between Wilder Street and Bosworth Street by removing approximately 11 parking spaces on the east side of the street, add sharrows on eastbound Bosworth Street between Diamond Street and the I-280 on-ramp, add an eastbound Class II bicycle lane on Bosworth Street between the I-280 on-ramp and Lyell Street by removing approximately 36 parking spaces on the west side of the street, add a westbound Class II bicycle lane on Bosworth Street between Lyell Street and Arlington Street by narrowing the travel lanes, add a westbound Class II bicycle lane on Bosworth Street between Arlington Street and Diamond Street by removing nine metered parking spaces, add sharrows on westbound Bosworth Street approaching Diamond Street, add a northbound Class II bicycle lane on Lyell Street between Still Street and Bosworth Street by narrowing the travel lanes and the medians as needed, add an eastbound Class II bicycle lane on Bosworth Street between Lyell Street and Milton Street, including a left-turn bicycle lane approaching Milton Street, by narrowing the travel lanes, and add sharrows on northbound Milton Street between Bosworth Street and San Jose Avenue.

- **Option 1**
  Project 5-7a Option 1 would add a southbound Class II bicycle lane on Lyell Street between Still Street and Cayuga Avenue by narrowing travel lanes, and add southbound Class II bicycle lanes on Lyell Street between Cayuga Avenue and Alemany Boulevard by removing one of the two southbound left-turn lanes approaching Alemany Boulevard.

Project 5-7a Option 1 would also add a northbound Class II bicycle lane on Rousseau Street between Alemany Boulevard and Cayuga Avenue by narrowing travel lanes, add a northbound Class II bicycle lane on Rousseau Street between Cayuga Avenue and Still Street by removing approximately three parking spaces on the east side of Rousseau Street, and add a westbound Class II bicycle lane on Still Street between Rousseau Street and Lyell Street by narrowing travel lanes. Option 1 would remove a total of approximately 59 parking spaces.

- **Option 2**

  Project 5-7a Option 2 would move northbound Bicycle Route #45 from Alemany Boulevard between Lyell Street and Rousseau Street, Rousseau Street between Alemany Boulevard and Still Street, and Still Street between Rousseau Street and Lyell Street to northbound Lyell Street between Alemany Boulevard and Still Street. Option 2 would add a southbound Class II bicycle lane on Lyell Street between Still Street and Cayuga Avenue by removing approximately seven parking spaces on the west side of Lyell Street, and add sharrows on southbound Lyell Street between Cayuga Avenue and Alemany Boulevard.

  Project 5-7a Option 2 would also add a left-turn bicycle lane on eastbound Alemany Boulevard approaching Lyell Street by narrowing the median and changing the existing left-turn restriction to allow bicycle left-turns, remove the existing left-turn bicycle lane on eastbound Alemany Boulevard approaching Rousseau Street and add approximately seven parking spaces along the south side of Alemany Boulevard, add a northbound contra-flow Class II bicycle lane on Lyell Street between Alemany Boulevard and Still Street by removing one of the two southbound left-turn lanes approaching Alemany Boulevard, and create a channel in the median island at the intersection of Lyell and Still Streets to allow northbound bicycle travel. Project 5-7a Option 2 would add stop controls on eastbound Still Street approaching Lyell Street. Project 5-7a Option 2 would remove a total of approximately 56 parking spaces.

b. Connection between Monterey Boulevard and San Jose Avenue via Monterey Boulevard and San Jose Avenue ramps

Project 5-7b would add a new route to the City's existing bicycle route network.

Project 5-7b would involve the installation of Class I, Class II, and Class III bicycle facilities to close a gap between the existing bicycle lanes on San Jose Avenue, existing Bicycle Route 45, and the existing Class III bicycle Route 70 on Circular Avenue.

In the southbound direction, Project 5-7b would extend the existing Class II bicycle lane on San Jose Avenue approaching the Arlington Street off-ramp to Diamond Street by installing a Class II bicycle lane along the Arlington Street off-ramp, installing a Class I bicycle path across the median island of San Jose Avenue to connect the Arlington Street and Monterey Boulevard off-ramps, and installing a Class II bicycle lane along the Monterey Boulevard off-ramp approaching Diamond Street. Sharrows would be added to the existing Class III bicycle route on Monterey Boulevard from Diamond Street to Circular Avenue.

In the northbound direction, Project 5-7b would install Class II bicycle lanes on Monterey Boulevard and San Jose Avenue from Circular Avenue to Milton Street by removing one travel lane from Circular Avenue to the San Jose Avenue freeway overpass. There would be no parking removal associated with Project 5-7b.

PROJECT 5-8: KANSAS STREET BICYCLE LANES, 23RD STREET TO 26TH STREET

Project 5-8 would involve the installation of Class II bicycle lanes in both directions on Kansas Street between 23rd Street and 26th Street.

Project 5-8 would install Class II bicycle lanes in both directions, with painted or raised pedestrian refuges added at the intersections. Project 5-8 would not involve travel lane or parking removal. However, the travel lanes would be narrowed at the intersections to create the pedestrian refuge areas.

PROJECT 5-9: OCEAN AVENUE BICYCLE LANES, ALEMANY BOULEVARD TO LEE AVENUE

Project 5-9 would involve the installation of Class II and Class III bicycle facilities in both directions on Ocean Avenue between Alemany Boulevard and Lee Avenue.

Project 5-9 is divided into two segments.

Segment I would extend from Alemany Boulevard to San Jose Avenue. Project 5-9 would install Class II bicycle lanes in both directions without parking or lane removal along Segment I.

Segment II would extend from San Jose Avenue to Lee Avenue. Segment II includes two design options:

- **Option 1**
  Segment II Option 1 would add a Class II bicycle lane in the westbound direction from San Jose Avenue to Phelan Avenue by removing approximately 24 parking spaces on

the north side of the street and removing one of the westbound travel lanes from the I-280 Freeway southbound off-ramp to Phelan Avenue.

Segment II Option 1 would add a Class II bicycle lane in the eastbound direction from Lee Avenue to the I-280 Freeway southbound on-ramp by removing approximately 25 parking spaces on portions of the south side of the street and removing one of the eastbound travel lanes from Geneva Avenue to 330 feet west of the I-280 Freeway northbound on-ramp. This option also would reconfigure the optional eastbound through/right turn lane approaching Geneva Avenue to a dedicated right-turn lane.

- **Option 2**
  Segment II Option 2 would add a Class II bicycle lane in the westbound direction from San Jose Avenue to the I-280 Freeway southbound off-ramp by removing approximately 20 parking spaces on the north side of the street. From the I-280 Freeway southbound off-ramp to Lee Avenue sharrows would be added in the westbound direction to the existing Class III bicycle route.

  Segment II Option 2 would add a Class II bicycle lane in the eastbound direction by removing approximately 70 parking spaces from Lee Avenue to the I-280 northbound on-ramp. No travel lane would be removed under Segment II Option 2.

PROJECT 5-10: PHELAN AVENUE BICYCLE LANES, JUDSON AVENUE TO OCEAN AVENUE

Project 5-10 would involve the installation of Class II bicycle lanes in both directions on Phelan Avenue between Judson Avenue and Ocean Avenue. Project 5-10 would include installation of traffic signals at the intersections of Phelan Avenue and South Cloud Circle, Phelan Avenue and North Cloud Circle, and the new intersection of Phelan Avenue and Lee Avenue. Project 5-10 also would include adding bulb-outs and raised crosswalks along Phelan Avenue. Project 5-10 includes two design options:

- **Option 1**
  Option 1 would remove a travel lane in each direction and install Class II bicycle lanes in both directions and build raised median islands with left-turn pockets at intersections from Ocean Avenue to Judson Avenue. This design option is consistent with the Balboa Park Station Area Plan Draft EIR, which was released in October 2007.

- **Option 2**
  Option 2 would remove approximately 140 parking spaces and approximately 30 motorcycle parking spaces on Phelan Avenue to install Class II bicycle lanes in both directions. This option would not provide sidewalk bulb-outs at crosswalks. There would be no travel lane removal under Option 2.

PROJECT 5-11: POTRERO AVENUE AND BAYSHORE BOULEVARD BICYCLE LANES, 25TH TO CESAR CHAVEZ STREETS

Project 5-11 would involve the installation of Class II bicycle lanes in both directions on Potrero Avenue and Bayshore Boulevard between 25th Street and Cesar Chavez Street.

In the northbound direction, travel lanes would be narrowed to add a curbside Class II bicycle lane along Bayshore Boulevard from approximately 200 feet south of the intersection of Potrero Avenue and the US 101 off-ramp to this intersection. A northbound Class II bicycle lane exists on Potrero Avenue, beginning approximately 300 feet south of 25th Street. This Class II bicycle lane would be extended southerly to the intersection of Potrero Avenue and the US 101 off-ramp by removing approximately 20 parking spaces. In the southbound direction, a Class II bicycle lane exists on Potrero Avenue, but ends approximately 120 feet south of 25th Street. This Class II bicycle lane would be extended southerly to Cesar Chavez Street by narrowing travel lanes. No parking removal would be required to extend the southbound Class II bicycle lane.

PROJECT 5-12: SAGAMORE STREET AND SICKLES AVENUE BICYCLE LANES, ALEMANY BOULEVARD TO BROTHERHOOD WAY

Project 5-12 would involve the installation of Class II bicycle lanes in both directions on Sagamore Street and Sickles Avenue, between Alemany Boulevard and Brotherhood Way. Project 5-12 includes two design options:

- **Option 1**
  Option 1 would add a Class II bicycle lane in the westbound direction on Sagamore Street from Plymouth Avenue to Orizaba Avenue by narrowing the travel lanes from Plymouth Avenue to Capitol Avenue and removing one westbound travel lane from 250 feet west of Capitol Avenue to Orizaba Avenue. The westbound lane configuration approaching Orizaba Avenue would change to include a dedicated right turn lane onto Orizaba Avenue, a westbound lane approaching Brotherhood Way, and a westbound lane approaching Alemany Boulevard. The angled parking on the north side of Sagamore Street between Capitol Avenue and Orizaba Avenue would be converted to back-in-angled parking and would not result in parking loss.

Option 1 would add a Class II bicycle lane in the eastbound direction on Sagamore Street from Orizaba Avenue to Capitol Avenue by removing eight parking spaces just west of Capitol Avenue. There is an existing Class II bicycle lane on Sagamore Street in the eastbound direction from Capitol Avenue to 130 feet west of Plymouth Avenue. A Class II bicycle lane would be added on Sagamore Street from 130 feet west of Plymouth Avenue to Plymouth Avenue by removing an eastbound travel lane along that segment. In addition, a Class II bicycle lane would be added in the eastbound direction along Sickles Avenue from Plymouth Avenue to Alemany Boulevard by narrowing the traffic lane.

- **Option 2**
  Option 2 would add a Class II bicycle lane in the westbound direction from Plymouth Avenue to Capitol Avenue, similar to Option 1. From Capitol Avenue to Orizaba Avenue, a westbound Class II bicycle lane would be added by changing the parking layout and removing 15 parking spaces on the north side of Sagamore Street and creating a westbound right-turn pocket approaching Orizaba Avenue. In the eastbound direction from Orizaba Avenue to Alemany Boulevard a Class II bicycle lane would be added by removing 15 parking spaces on the south side of Sagamore Street. In addition, a Class II bicycle lane would be added in the eastbound direction along Sickles Avenue from Plymouth Avenue to Alemany Boulevard by narrowing the traffic lane.

PROJECT 5-13: SAN BRUNO AVENUE BICYCLES LANES, PAUL AVENUE TO SILVER AVENUE

Project 5-13 would involve moving a portion of the existing Bicycle Route #25 from Bayshore Boulevard onto San Bruno Avenue.

Project 5-13 would involve the installation of Class II bicycle lanes in both directions on San Bruno Avenue between Paul Avenue and Silver Avenue. Project 5-13 is divided into two segments.

Segment I would extend from Paul Avenue to Silliman Street and includes two design options:

- **Option 1**
  Segment I Option 1 would install Class II bicycle lanes in both directions between Paul Avenue and Silliman Street. The bicycle lanes would be provided between eight-foot wide parking and ten-foot wide travel lanes.

- **Option 2**
  Segment I Option 2 would install Class II bicycle lanes in both direction between Paul Avenue and Silliman Street. The bicycle lanes would be provided between seven-foot wide parking and eleven-foot wide travel lanes.

Segment II would extend from Silliman Street to Silver Avenue and includes one design option:

Class II bicycle lanes would be installed in both directions along Segment II by removing 22 parking spaces.

PROJECT 6-1: CLAREMONT BOULEVARD BICYCLE LANES, DEWEY BOULEVARD TO PORTOLA DRIVE

Project 6-1 would involve the installation of Class II and Class III bicycle facilities in both directions on Claremont Boulevard between Dewey Boulevard and Portola Drive.

Project 6-1 would install a Class II bicycle lane in the northbound direction from Portola Drive to Dewey Boulevard. In the southbound direction, Project 6-1 would add sharrows[11] to the existing Class III bicycle route from Dewey Boulevard to Ulloa Street and add a Class II bicycle lane from Ulloa Street to Portola Drive. Project 6-1 would not involve travel lane or parking removal.

PROJECT 6-2: CLIPPER STREET BICYCLE LANES, DOUGLASS STREET TO PORTOLA DRIVE

Project 6-2 would involve the installation of Class II and Class III bicycle facilities in both directions on Clipper Street between Douglass Street and Portola Drive. Project 6-2 is divided into two segments.

Segment I would extend between Diamond Heights Boulevard and Douglass Street and includes one design option:

Project 6-2 would install Class II bicycle lanes in both directions along Segment I by removing one travel lane in each direction and establishing a center two-way left-turn lane.

[11] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/ CAMUTCD-Part 9.pdf.

Segment II would extend between Diamond Heights Boulevard and Portola Drive and includes two design options:

- **Option 1**
  Segment II Option 1 would replace one westbound left-turn lane on Clipper Street approaching Portola Drive with a Class II left-turn bicycle lane. This option would also install a westbound Class II bicycle lane along the north curb on Clipper Street approaching Portola Drive. Sharrows would be added to the existing Class III bicycle route in the eastbound direction. This option would not involve parking removal.

- **Option 2**
  Segment II Option 2 would add sharrows in both directions to the existing Class III bicycle route. This option would not involve travel lane or parking removal.

PROJECT 6-3: LAGUNA HONDA BOULEVARD BICYCLE LANES, PLAZA STREET TO WOODSIDE AVENUE

Project 6-3 would involve the installation of Class II bicycle lanes in both directions on Laguna Honda Boulevard between Plaza Street and Woodside Avenue. Project 6-3 includes two design options:

- **Option 1**
  Option 1 would install a Class II bicycle lane on Laguna Honda Boulevard in the northbound direction by removing one northbound travel lane from Woodside Avenue to approximately 320 feet north of Plaza Street. Option 1 would install a Class II bicycle lane in the southbound direction on Laguna Honda Boulevard by removing one southbound travel lane from 115 feet south of Plaza Street to Dewey Boulevard. Option 1 would also install a Class II left-turn bicycle lane on southbound Laguna Honda Boulevard approaching the Laguna Honda Boulevard/Dewey Boulevard intersection. Option 1 does not involve parking removal.

- **Option 2**
  Option 2 would install Class II bicycle lanes in both directions on Laguna Honda Boulevard by widening the roadway and narrowing portions of the median. Option 2 does not involve travel lane or parking removal.

PROJECT 6-4: LAGUNA HONDA BOULEVARD BICYCLE LANES, PORTOLA DRIVE TO WOODSIDE AVENUE

Project 6-4 would add a new route to the City's existing bicycle route network on northbound Laguna Honda Boulevard from Portola Drive to Woodside Avenue.

Project 6-4 would involve creating a new bicycle route with a Class II bicycle lane in the northbound direction on Laguna Honda Boulevard from Ulloa Street to Vasquez Avenue and would involve adding sharrows on northbound Laguna Honda Boulevard from Vasquez Avenue to Woodside Avenue. Project 6-4 would involve adding a Class II bicycle lane to the existing Class III bicycle route in the southbound direction.

Project 6-4 would narrow travel lanes and establish Class II bicycle lanes in both directions by removing approximately five parking spaces. Project 6-4 would also involve consolidation of three Muni bus stops on Laguna Honda Boulevard at Idora Avenue, Balceta Avenue, and Hernandez Avenue into one 80-foot bus zone in each direction. The proposed bus stop modification would remove approximately eight parking spaces.

PROJECT 6-5: PORTOLA DRIVE BICYCLE LANES, CORBETT AVENUE TO O'SHAUGHNESSY BOULEVARD

Project 6-5 would involve the installation of Class II bicycle lanes in both directions on Portola Drive between Corbett Avenue and the intersection of O'Shaughnessy Boulevard and Woodside Avenue.

In the eastbound direction, a Class II bicycle lane would be added to Portola Drive by removing a travel lane from O'Shaughnessy Boulevard to 300 feet easterly and by narrowing travel lanes from 300 feet east of O'Shaughnessy Boulevard to 215 feet west of Corbett Avenue.

In the westbound direction, a Class II bicycle lane would be added to Portola Drive by removing approximately four parking spaces and narrowing travel lanes from Corbett Avenue to Burnett Avenue. Project 6-5 would remove one westbound lane approaching Clipper Street and would add approximately 15 parking spaces. From Burnett Avenue to Twin Peaks Boulevard, a Class II bicycle lane would be added by narrowing travel lanes. From Twin Peaks Boulevard to Woodside Avenue, a Class II bicycle lane would be added by removing one westbound left-turn lane approaching O'Shaughnessy Boulevard.

PROJECT 6-6: PORTOLA DRIVE BICYCLE LANES, O'SHAUGHNESSY BOULEVARD/WOODSIDE AVENUE TO SLOAT BOULEVARD/ST. FRANCIS BOULEVARD

Project 6-6 would involve the installation of Class II and Class III bicycle facilities in both directions between the intersections of O'Shaughnessy Boulevard/Woodside Avenue and Sloat Boulevard/St. Francis Boulevard. Project 6-6 includes two design options:

- **Option 1**
  Option 1 would install a Class II bicycle lane in the northeast direction on Portola Drive as follows: from St. Francis Boulevard to Evelyn Way by removing approximately 240 parking spaces and from Evelyn Way to O'Shaughnessy Boulevard by removing one travel lane in the northeast direction.

  Option 1 would install a Class II bicycle lane in the southwest direction on Portola Drive as follows: from Woodside Avenue to Sydney Way/Fowler Avenue by removing one left-turn lane approaching Fowler Avenue from Sydney Way to Evelyn Way by narrowing travel lanes; and from Laguna Honda Boulevard to Waithman Way by narrowing travel lanes.

  Option 1 would add sharrows to the existing Class III bicycle route on Portola Drive in the southwest direction as follows: from Evelyn Way to Laguna Honda Boulevard and from Waithman Way to Sloat Boulevard.

- **Option 2**
  Option 2 would install a Class II bicycle lane in the northeast direction on Portola Drive from St. Francis Boulevard to Evelyn Way by narrowing travel lanes.

  Option 2 would install sharrows on the existing Class III bicycle route in the northeast direction on Portola Drive from Evelyn Way to Woodside Avenue.

  Option 2 would install sharrows on the existing Class III bicycle route in the southwest direction on Portola Drive as follows: from Woodside Avenue to Laguna Honda Boulevard and from Waithman Way to Sloat Boulevard.

  Option 2 would install a Class II bicycle lane in the southwest direction by narrowing travel lanes from Laguna Honda Boulevard to Waithman Way.

PROJECT 7-1: INTERSECTION IMPROVEMENTS AT 7TH AVENUE AND LINCOLN WAY

Project 7-1 was partially implemented in December 2006. The implemented portion of Project 7-1 involved the modification of the west side of the raised median at the intersection of 7th Avenue and Lincoln Way by cutting back the median from the west crosswalk to 5 feet easterly to allow southbound bicyclists to cross Lincoln Way without riding in the crosswalk.

Project 7-1 would involve further modifications at the intersection of 7th Avenue and Lincoln Way to allow northbound bicyclists to cross Lincoln Way. These modifications would involve installing a cut-through in the center of the raised median for northbound bicyclists, and installing a bicycle loop detector and a bicycle traffic signal for northbound bicyclists. Project 7-1 would involve the removal of nine parking spaces on the east side of 7th Avenue due south of Lincoln Way. There is no travel lane removal associated with Project 7-1.

PROJECT 7-2: 7TH AVENUE BICYCLE LANES, LAWTON STREET TO LINCOLN WAY

Project 7-2 would add a new route to the City's existing bicycle route network.

Project 7-2 would involve the installation of Class II and Class III bicycle facilities in both directions on 7th Avenue between Lawton Street and Lincoln Way.

Project 7-2 would install Class II bicycle lanes in both directions on 7th Avenue between Lawton Street and Judah Street by removing one southbound travel lane. From Lincoln Way to Judah Street, one travel lane would be converted to a center two-way left turn lane and sharrows[12] would be added in both directions.

PROJECT 7-3: GREAT HIGHWAY AND POINT LOBOS AVENUE BICYCLE LANES, EL CAMINO DEL MAR TO CABRILLO STREET

Project 7-3 would involve the installation of Class II and Class III bicycle facilities in both directions on Great Highway and Point Lobos Avenue between Cabrillo Street and El Camino Del Mar.

Project 7-3 is divided into two segments:

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[12] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/ CAMUTCD-Part 9.pdf.

Segment I would extend along Point Lobos Avenue to Great Highway from 48th Avenue/El Camino Del Mar to Balboa Street. Project 7-3 would install Class II bicycle lanes in both directions by removing one travel lane in each direction along Segment I. The southbound Class II bicycle lane would be discontinued approaching the downhill section of Point Lobos Avenue from approximately the Sutro Heights Parking lot to approximately 600 feet north of Balboa Street. The Class II southbound bicycle lane would continue on Great Highway from approximately 600 feet north of Balboa Street to Balboa Street. Sharrows would be added on the travel lane at this downhill section of the road. Project 7-3 would remove approximately ten parking spaces along Segment I.

Segment II would extend on Great Highway from Balboa Street to Cabrillo Street. Project 7-3 would install Class II bicycle lanes in both directions by narrowing the northbound travel lanes along Segment II. Project 7-3 would convert the painted buffer area between the southbound travel lanes and the parking area into a southbound Class II bicycle lane. Project 7-3 would provide a connection to the existing Class II bicycle lanes on Cabrillo Street through the Cabrillo Plaza. There would be no travel lane or parking removals along Segment II.

PROJECT 7-4: JOHN F. KENNEDY DRIVE AND KEZAR DRIVE BICYCLE LANES, FROM STANYAN STREET TO TRANSVERSE DRIVE

Project 7-4 would involve the installation of Class II bicycle lanes in both directions on John F. Kennedy Drive from Kezar Drive to Transverse Drive and on eastbound Kezar Drive between John F. Kennedy Drive and Stanyan Street in Golden Gate Park.

Project 7-4 would add Class II bicycle lanes in both directions on John F. Kennedy Drive by narrowing existing travel lanes. A limited number of parking spaces would be removed along portions of John F. Kennedy Drive where the narrowing of travel lanes would not provide sufficient space to add Class II bicycle lanes.

Project 7-4 would convert the existing left-side shoulder next to the median on eastbound John F. Kennedy Drive approaching Kezar Drive to a left-side Class II bicycle lane. Project 7-4 would also convert the existing left-side shoulder next to the median on eastbound Kezar Drive between John F. Kennedy Drive and Stanyan Street to a left-side Class II bicycle lane.

PROJECT 7-5: KIRKHAM STREET BICYCLE LANES, 9TH AVENUE TO GREAT HIGHWAY

Project 7-5 would involve the installation of Class II bicycle lane s in both directions on Kirkham Street between 9th Avenue and Great Highway. Project 7-5 would be divided into six segments.

Segment I would include Kirkham Street between 9th Avenue and Funston Avenue, Kirkham Street between 17th Avenue and 18th Avenue, Kirkham Street between 20th Avenue and 36th Avenue, and Kirkham Street between 37th Avenue and Great Highway. The proposed option for this segment would involve installation of Class II bicycle lanes in both directions. The proposed option would not involve travel lane or parking removal.

Segment II would include Kirkham Street between Funston Avenue and 17th Avenue. The proposed option for this segment would involve installation of Class II bicycle lane s in both directions, with painted or raised pedestrian refuges added at the intersections. The proposal for this segment would not involve travel lane or parking removal. However, the travel lanes would be narrowed at the intersections to create the pedestrian refuge areas.

Segment III would include Kirkham Street between 18th Avenue and 19th Avenue. There are two design options for this segment:

- **Option 1**
  Segment III Option 1 would involve removal of approximately 10 parking spaces on the north side of Kirkham Street and installation of Class II bicycle lanes in both directions. This option would not involve travel lane removal.

- **Option 2**
  Segment III Option 2 would involve installation of a Class II bicycle lane in the eastbound direction and installation of sharrows along the existing Class III bicycle route in the westbound direction on Kirkham Street. This option would not involve travel lane or parking removal.

Segment IV would include Kirkham Street between 19th Avenue and 20th Avenue. There are two design options for this segment:

- **Option 1**
  Segment IV Option 1 would involve removal of approximately 12 parking spaces on the south side of Kirkham Street and installation of Class II bicycle lane s in both directions. This option would not involve travel lane removal.

- **Option 2**
  Segment IV Option 2 would involve installation of a Class II bicycle lane in the westbound direction and installation of sharrows along the existing Class III bicycle route in the eastbound direction on Kirkham Street. This option would not involve travel lane or parking removal.

Segment V would include Kirkham Street between 36th Avenue and Sunset Boulevard. There are two design options for this segment:

- **Option 1**
  Segment V Option 1 would involve removal of approximately four parking spaces on the north side of Kirkham Street and installation of Class II bicycle lane s in both directions. This option would not involve travel lane removal.

- **Option 2**
  Segment V Option 2 would involve installation of a Class II bicycle lane in the eastbound direction and installation of sharrows along the existing Class III bicycle route in the westbound direction on Kirkham Street. This option would not involve travel lane or parking removal.

Segment VI would be Kirkham Street between 37th Avenue and Sunset Boulevard. There are two design options for this segment:

- **Option 1**
  Segment VI Option 1 would involve removal of approximately four parking spaces on the south side of Kirkham Street and installation of Class II bicycle lane s in both directions. This option would not involve travel lane removal.

- **Option 2**
  Segment VI Option 2 would involve installation of a Class II bicycle lane in the westbound direction and installation of sharrows along the existing Class III bicycle facility route in the eastbound direction of Kirkham Street. This option would not involve travel lane or parking removal.

PROJECT 7-6: PAGE AND STANYAN STREETS INTERSECTION TRAFFIC SIGNAL IMPROVEMENTS

Project 7-6 would involve signalization of the intersection of Page and Stanyan Streets and would include other improvements, as described below.

The proposed signal at this intersection would facilitate pedestrian and bicycle access to the existing Class I pedestrian and bicycle multi-use path in Golden Gate Park, west of Stanyan Street. Improvements would include new traffic signals and improved curb ramps. Project 7-6 would not remove any travel lanes or parking.

PROJECT 8-1: 19TH AVENUE MIXED-USE PATH, BUCKINGHAM WAY TO HOLLOWAY AVENUE

Project 8-1 would add a new route to the City's existing bicycle route network.

Project 8-1 would involve the installation of a two-way Class I bicycle path between Buckingham Way and Holloway Avenue, either along the west side of 19th Avenue or through the San Francisco State University (SFSU) campus. Project 8-1 includes two design options:

- **Option 1**
  Option 1 would add a two-way Class I bicycle path along the west side of 19th Avenue between Buckingham Way and Holloway Avenue by removing approximately 45 vehicle and 35 motorcycle parking spaces and by shifting the existing sidewalk westerly into the SFSU campus right-of-way. Approximately 300 feet north of Holloway Avenue, the path would shift westerly into the campus to avoid conflicts with the existing transit stop and main pedestrian entrance to campus, and would terminate at Holloway Avenue near Cardenas Avenue.

- **Option 2**
  Option 2 would add a two-way Class I bicycle path through the SFSU campus between Buckingham Way and Holloway Avenue, as called for in the SFSU Campus Master Plan. Long-term SFSU plans include building a new bicycle and pedestrian bridge with a 32-foot wide deck through SFSU. The proposed bridge would connect the student housing complex University Park North, with the north side of Thornton Hall. The proposed bridge would provide two 10-foot sidewalks for pedestrians and two 6-foot Class I unidirectional bicycle paths for bicyclists.

PROJECT 8-2: BUCKINGHAM WAY BICYCLE LANES, 19TH AVENUE TO 20TH AVENUE

Project 8-2 would involve the installation of Class II bicycle lanes in both directions on Buckingham Way between 19th Avenue and 20th Avenue. Class II bicycle lanes would be added in both directions on Buckingham Way by narrowing travel lanes and removing approximately 10 parking spaces on the north side of Buckingham Way.

Project 8-3: Holloway Avenue Bicycle Lanes, Junipero Serra Boulevard to Varela Avenue

Project 8-3 would involve the installation of Class II bicycle lanes in both directions on Holloway Avenue between Junipero Serra Boulevard and Varela Avenues. Project 8-3 includes two design options:

- **Option 1**
  Option 1 would remove one travel lane in each direction and install Class II bicycle lanes in both directions on Holloway Avenue.

- **Option 2**
  Option 2 would install Class II bicycle lanes in both directions by removing approximately 50 parking spaces on Holloway Avenue between Junipero Serra Boulevard and 19th Avenue and removing approximately seven parking spaces on the south side of Holloway Avenue between 19th and Varela Avenues. The eastbound Holloway Avenue approach to 19th Avenue would be striped with a Class II bicycle lane, one shared through-right traffic lane, and one left-turn only lane.

PROJECT 8-4: JOHN MUIR DRIVE BICYCLE LANES, LAKE MERCED BOULEVARD TO SKYLINE BOULEVARD

Project 8-4 would involve the installation of Class II bicycle lanes in both directions on John Muir Drive between Lake Merced Boulevard and Skyline Boulevard.

Project 8-4 would add continuous Class II bicycle lanes in both directions. Project 8-4 would involve modifying the existing parking on the south side of John Muir Drive by implementing back-in angled parking. Project 8-4 would not involve travel lane or parking removal.

PROJECT 8-5: SLOAT BOULEVARD BICYCLE LANES, GREAT HIGHWAY TO SKYLINE BOULEVARD

Project 8-5 would involve the installation of Class II bicycle lanes in both directions on Sloat Boulevard between Great Highway and Skyline Boulevard.

Project 8-5 would remove one travel lane in the westbound direction between Skyline Boulevard and Lower Great Highway and remove one travel lane in the eastbound direction from Lower Great Highway to 41st Avenue. There would be no parking loss associated with Project 8-5.

Project 8-5 would include the installation of a bicycle box at the intersection of Sloat Boulevard at Great Highway in the westbound direction. A bicycle box is a striping treatment that includes a Class II bicycle lane leading to a box situated in advance of a crosswalk, with an advance stop limit bar for motor vehicles to allow bicyclists to move in front of a queue of motor vehicle traffic and position themselves for a through or left-turn movement during a red signal.

On the eastbound approach to Skyline Boulevard, Project 8-5 would establish a "Right Lane Must Turn Right Except for Muni" regulation on Sloat Boulevard from 350 feet west of Skyline Boulevard to Skyline Boulevard. Project 8-5 would convert a Muni bus stop on eastbound Sloat Boulevard at Skyline Boulevard into a bus zone and would relocate the westbound mid-block bus zone at Sloat Boulevard and Lower Great Highway to 47th Avenue.

Project 8-5 would establish a "Right Lane Must Turn Right Except for Muni" regulation for westbound Sloat Boulevard between 37th Avenue and 39th Avenue, reducing the through movement to one travel lane. This would allow the addition of a westbound bicycle lane on Sloat Boulevard beginning at 37th Avenue.

PROGRAM-LEVEL REVIEW

Program-level review is used in environmental analyses for a series of actions that can be characterized as one large project because they are logically related. The series of actions can be related geographically or be logical parts in the chain of contemplated actions. Program-level review is used in connection with issuance of rules, plans, or other general criteria to govern the conduct of a continuing program.

Programmatic review also is appropriate for individual activities carried out under the same authorizing statutory or regulatory authority, that have generally similar environmental effects which can be mitigated in similar ways (CEQA Guidelines, Section 15168).

Program-level review has been selected as the appropriate level of CEQA review for this revision to the San Francisco Bicycle Plan, as well as amendments to the *General Plan, Planning Code,* and the *Transportation Code,* because the Bicycle Plan generally promulgates policies and goals that would result in a logical series of contemplated actions to further enhance and encourage bicycling within the City. Adoption and implementation of the Bicycle Plan would be accompanied by amendments to the *General Plan, Planning Code,* and the *Transportation Code* to reflect the updated Bicycle Plan and implement its policies.

1. Policy Actions

Program-level review has been used to analyze proposed policy actions that would be adopted as part of the approvals of the Bicycle Plan. These policies would have an impact on the future direction and implementation of improvements throughout the City's bicycle route network, and would also affect areas currently outside of the bicycle network, which could be affected by future bicycle route network changes. The implementation of specific projects, which may be carried out in response to these policies, may require future project-level review and

environmental analysis. While the adoption of the policy may not appear to have the potential to cause direct or indirect impacts to the physical environment, future policy-based projects could include alterations with a potential to affect the environment. Such projects would require environmental analysis prior to their approval, unless the specific project in question has been analyzed as a part of the current Bicycle Plan EIR, or as a part of some other approved environmental plan document.

2. Long-Term Improvements

Program-level review has been used to analyze proposed long-term improvements that would be adopted as part of the Bicycle Plan. Long-term improvement projects are either major improvements to segments of the existing bicycle route network or are potential future additions of new streets and pathways to the bicycle route network and may require additional environmental review in the future. Specific designs for these projects have not been developed as of publication of this document. These proposed long-term improvements include a wide range of potential design features that would, in accordance with the goals of the Bicycle Plan, enhance the overall connectivity and safety of the bicycle route network for bicyclists and help increase bicycle use. Development of the proposed long-term improvements takes into account ongoing efforts being conducted by SFMTA (such as the Transit Effectiveness Project, the Better Streets Plan, and the Traffic Calming Program) to accommodate the needs of all modes of travel within the street network.

The impacts of these future improvements are evaluated at a program level in this analysis with regard to the Proposed Project footprint (the affected street right-of-way and park land, as indicated in Figure IV.B.1-1: Project Location and Site Plan, p. IV.B-5) and may require further project-level analysis that would consider the potential environmental impacts of these improvements in a separate environmental review process, once specific project designs are developed.

The anticipated long-term improvements, which are encompassed by the present environmental review, include elements such as the following:

- Installation of bicycle lanes, pathways or other bicycle facilities, including those created in conjunction with the narrowing or removal of travel lanes;
- Signage changes;
- Pavement marking such as the installation of colored pavement materials and the installation of sharrows;

- Modifications to bus zones;
- Modifications to parking configurations such as changes to the location, configuration, and number of metered and unmetered parking spaces and loading zones;
- Changes to the locations and configurations of curb cuts sidewalks and medians;
- Widening of roadways;
- Reconfiguration of intersections to improve bicycle crossings, including installation of bicycle traffic signals;
- The installation of traffic calming devices, including designation of bicycle boulevards that prioritize bicycle travel over other transportation modes; and,
- Designation of shared bicycle and transit lanes.

The street segments included as part of the long-term improvements, in relation to the existing bicycle route network and proposed near-term improvements, are indicated on p. V.A.5-1. The long-term improvements include the following street segments (numbered according to the sequence of their discussion in this document):

- L-1: Battery Street between Clay Street and The Embarcadero
- L-2: Fisherman's Wharf Bay Trail Improvements in the vicinity of Fisherman's Wharf and Hunters Point
- L-3: Hunters Point Bay Trail Improvements
- L-4: Bayview Transportation Improvement Project (BTIP)
- L-5: Brotherhood Way between Arch Street and Lake Merced Boulevard
- L-6: Capp Street between 15th Street and 26th Street
- L-7: Geary Boulevard Corridor between 25th Avenue and Divisadero Street
- L-8: Golden Gate Avenue between Baker Street and Market Street
- L-9: Harold Avenue between Holloway Avenue and Ocean Avenue
- L-10: Holloway Avenue between Harold Avenue and Junipero Serra Boulevard
- L-11: Industrial Street between Loomis Street and Oakdale Avenue
- L-12: Jennings Street between Cargo Way and Evans Street
- L-13: Lee Avenue between Holloway Avenue and Phelan Avenue

- L-14: Mansell Street/Persia Avenue between Ocean Avenue and University Street
- L-15: Mendell Street between Oakdale Avenue and Palou Avenue
- L-16: Mission Creek Bikeway between Fourth Street and Harrison Street
- L-17: Monterey Boulevard Corridor between Circular Avenue and Gennessee Street
- L-18: Monterey Boulevard between Junipero Serra Boulevard and San Benito Way
- L-19: Oak Street between Baker Street and Scott Street
- L-20: O'Farrell Street between Market Street and Polk Street
- L-21: Pier 70 between 18th Street and 22nd Street
- L-22: Shotwell Street between 14th Street and 26th Street
- L-23: Stanyan Street between Frederick Street and Fulton Street
- L-24: Connection to Transbay Transit Center

The City is currently working with the Bayview Hunters Point community (BVHP) to develop plans to reduce truck traffic along Third Street and in the surrounding residential areas. This effort has resulted in development of the Bayview Transportation Improvements Project (BTIP) which is listed above.[13] Currently, the BTIP includes consideration of several truck route alternatives referred to as Build Alternatives. Each Build Alternative consists of one (1) northern and one (1) southern truck route alignment. Preliminary analysis has resulted in four (4) southern and two (2) northern build alternatives, which are undergoing environmental review in a separate process from this one. The BTIP Build Alternatives propose several changes to the bicycle route network to reduce conflicts between bicyclists and trucks on streets that are proposed as designated truck routes. The bicycle route network changes associated with the BTIP will be analyzed at a program-level in this analysis and are summarized below.

For all BTIP Northern Build Alternatives:

Proposed relocation of Bicycle Route #805:

From: Arelious Walker Drive (between Carroll and Gilman Avenues) and Carroll Avenue (between Arelious Walker Drive and Jennings Street).

To: Gilman Avenue (between Arelious Walker Drive and Jennings Street) and Jennings Street (between Gilman and Carroll Avenues).

[13] For more information regarding the BTIP, please see http://www.bayviewtrans.org.

For all BTIP Southern Build Alternatives:

Proposed bicycle lanes on Gilman Avenue between Donahue Street and Arelious Walker Drive.

Proposed bicycle lanes on Harney Way Extension between Jamestown Avenue and Gilman Avenues.

Proposed bicycle lanes on Jamestown Avenue Extension and Hunters Point Expressway.

Proposed bicycle lanes on Alana Way between US 101 and Harney Way.

Proposed bicycle lanes on Harney Way between Alana Way and Jamestown Avenue.

For BTIP S1-Walker Bridge Build Alternative:

Proposed bicycle lanes on Arelious Walker Drive Extension between Bancroft Avenue and Crisp Avenue.

Proposed bicycle lanes on Crisp Avenue between Arelious Walker Drive Extension and Spear Street.

Proposed bicycle path along Crisp Avenue right-of-way between the intersection of Palou/Griffith and Arelious Walker Drive Extension.

For BTIP S2-Griffith Bridge and S3-Ingalls Street Build Alternatives:

Proposed bicycle lanes on Crisp Avenue between the intersection of Palou Avenue/Griffith Street and Spear Street.

For BTIP S4-Underwood Avenue Build Alternative:

Proposed bicycle lanes on Underwood Avenue between Hawes Street and Arelious Walker Drive Extension.

Proposed bicycle lanes on Crisp Avenue between Arelious Walker Drive Extension and Spear Street.

Proposed bicycle path along Crisp Avenue right-of-way between the intersection of Palou Avenue/Griffith Street and Arelious Walker Drive Extension.

As indicated above, specific designs of these long-term improvement projects have not been developed, and no schedule currently exists for implementation. Implementation of the long-term improvements would include developing preliminary designs and options, public

comment on the options, assessment of potential impacts of the designs, appropriate environmental review, and implementation. The impacts of the long-term improvements are evaluated in this chapter at a program level, and may require additional project-level analysis prior to approval.

3. Minor Improvements

Program-level review also is provided for minor improvements. Minor improvements would include minor pavement marking and signage changes to improve bicycle travel, such as the installation of colored pavement materials, the installation of sharrows (shared roadway bicycle markings illustrated in Figure IV.D.1-1, Illustration of Sharrows, p. IV.B-56),[14] minor changes to parking and traffic lane configurations, minor changes to intersection traffic signal timing plans, the installation of bicycle boxes[15] at certain intersections, and bicycle parking within the public right-of-way, including bicycle racks on sidewalks meeting certain criteria. These improvements would require minimal physical modifications to the roadway. The aim of this analysis is to provide program-level environmental review of these types of minor physical modifications such that they may be implemented with minimal, if any, additional CEQA documentation.

PROJECT SCHEDULE

Near-term improvements would be implemented within the five years following approval of the San Francisco Bicycle Plan and project-specific approvals, which cannot occur until completion of the environmental review process and the lifting of the Superior Court's injunction. No schedule currently exists for the long-term improvements or minor improvements. However, it is anticipated that minor improvements would be implemented as necessary, following approval of the Proposed Project and the lifting of the Superior Court's injunction.

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[14] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/CAMUTCD-Part 9.pdf.

[15] Bicycle boxes are striped waiting areas for bicyclists situated behind a crosswalk and in front of a motor vehicle stop bar where a bicycle lane approaches a signalized intersection. Bicycle boxes allow bicyclists approaching an intersection in a bicycle lane to move to the front of a queue of motor vehicles and position themselves for turning movements at the intersection. Bicycle boxes include a stenciled bicycle marking and are generally accompanied by signs communicating where bicycles and motor vehicles should stop.

SAN FRANCISCO BICYCLE PLAN PROJECT

FIGURE IV.D.1-1: ILLUSTRATION OF SHARROWS

D. INTENDED USES OF THE EIR

The Proposed Project would not require any variances, special authorizations, or changes to the City zoning maps. After certification of the EIR by the San Francisco Planning Commission (CPC), and any appeal to the San Francisco Board of Supervisors (BOS), approvals would be required for the Proposed Project. These approvals are listed here:

- Approval of Bicycle Plan by the San Francisco Municipal Transportation Agency (SFMTA) Board of Directors and the BOS
- Recommendation by the CPC and approval by the BOS of amendments to the *General Plan* and *Planning Code*
- Recommendation by the SFMTA Board of Directors and approval by the BOS of amendments to the *Transportation Code*
- Legislation from BOS and/or SFMTA action to implement specific projects
- Approval of the Recreation and Park Commission for implementation of certain bicycle improvements on RPD lands
- Certification by the Metropolitan Transportation Commission (MTC) that the Bicycle Plan complies with state requirements and approval by Caltrans that would qualify San Francisco to receive state Bicycle Transportation Account Funds

As noted above, long-term improvements are evaluated in this EIR at a program-level. Impacts of these improvements are evaluated with regard to the Proposed Project footprint, and may require further project-level analysis in separate environmental review processes once specific project descriptions are developed. Near-term improvements analyzed at a project-level would not require further environmental analysis.

E. PLANS AND POLICIES

This section provides a summary of the plans and policies of the City and County of San Francisco (City), and regional, state, and federal agencies that have policy and regulatory control over the project site, namely, the City of San Francisco. These plans and policies include the *San Francisco Planning Code*, the *San Francisco General Plan* and applicable *San Francisco Area Plans*, the *Better Streets Plan*, the *Sustainability Plan for the City of San Francisco*, the *Bay Area Air Quality Plan*, the *San Francisco Regional Water Quality Control Board Basin Plan*, the *San Francisco Transportation Code*, area-wide waste treatment plans, regional housing allocation plans, local

and regional habitat conservation plans and natural community conservation plans, the *San Francisco Bay Plan,* and coastal zone protection plans.

SAN FRANCISCO PLANS AND POLICIES

SAN FRANCISCO PLANNING CODE

The San Francisco *Planning Code* (*Planning Code*), which incorporates by reference the City's Zoning Maps, implements the *General Plan* and governs permitted uses, densities, and configuration of buildings within the City. Permits to construct new buildings (or to alter or demolish existing ones) may not be issued unless (1) the proposed project conforms to the *Planning Code,* (2) allowable exceptions are granted pursuant to provisions of the *Planning Code,* or (3) amendments to the *Planning Code* are included as part of the project.

The Bicycle Plan Project would not change any zoning, height or bulk district provisions under the *Planning Code.* However, the San Francisco Planning Code includes parking provisions which would be altered under the Bicycle Plan Project. These include required parking ratios for new construction, specification of the modes of transportation (e.g., automobiles, bicycles, or other) for which parking must be provided under new development projects, provisions for the location of bicycle parking in projects, and allowances for parking reductions based on various project parameters. The Bicycle Plan Project would require amendments to the *Planning Code,* to alter the requirement for new development. Among other changes, under the *Planning Code* amendments, a certain level of bicycle parking would be required in new development projects; bicycle parking would be distributed more evenly across large development projects instead of centralized in a single location; and automobile parking ratios may be reduced if bicycle parking is provided in lieu of some vehicle parking. The Bicycle Plan Project does not contradict provisions of the *Planning Code,* but does propose these amendments, so does vary from the *Planning Code.* These variances are not so substantial as to alter the overall intent, purpose, and meaning of the *Planning Code.*

SAN FRANCISCO GENERAL PLAN

The *San Francisco General Plan (General Plan)* is the comprehensive, long-term plan containing general policies and objectives to guide land use decisions. The *General Plan* includes the following elements: *Air Quality; Arts; Commerce and Industry; Community Facilities; Community Safety; Environmental Protection; Housing; Recreation and Open Space;* and *Transportation and Urban Design.* In addition to the *General Plan,* some areas of the City are also addressed in Area Plans adopted as part of the *General Plan.* Area Plans exist for eleven areas, including Bayview

Hunters Point, Central Waterfront, Chinatown, Civic Center, Downtown, Market and Octavia, Northeastern Waterfront, South of Market, Rincon Hill, Van Ness Avenue, and Western Shoreline.

The compatibility of the proposed project with *General Plan* policies that do not relate to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the proposed project. Any potential conflicts identified as part of the process would not alter the physical environmental effects of the proposed project. Applicable objectives and policies of the *General Plan* are presented below.

Air Quality Element

The *Air Quality Element* is intended to serve as a guide to ensure that air quality is given high priority in San Francisco, and that the City's population is thereby protected from adverse health and other impacts of air pollution.[16] This Bicycle Plan Project EIR includes a detailed analysis of potential air impacts, and finds that this project would have no significant impacts on air quality. Therefore, this project would not contradict the goals of the *Air Quality Element* of the *General Plan*.

Arts Element

The *Arts Element* is intended to strengthen the arts in San Francisco; validate and increase the role of the arts as a major economic force in the region; and otherwise identify, guide, legitimize, protect, and strengthen the arts and the future of the arts in the City.[17] The Bicycle Plan Project would have no effect on the arts, and is therefore consistent with the goals of the *Arts Element* of the *General Plan*.

Commerce and Industry Element

The *Commerce and Industry Element* focuses on supporting the City's overall economic development activities, to achieve economic vitality, social equity, and environmental quality.[18] There are no bicycle-related goals or objectives in the *Commerce and Industry Element*, and the Bicycle Plan Project would not have direct effects on commerce or economic development in the City. The Bicycle Plan Project would not contradict any of the goals or policies of this element of the *General Plan*.

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16 City and County of San Francisco, Air Quality Element, as amended through May 2008.
17 City and County of San Francisco, Arts Element, as amended through May 2008.
18 City and County of San Francisco, Commerce and Industry Element, as amended through May 2008.

Community Facilities Element

The *Community Facilities Element* summarizes City goals and priorities for Police services, Neighborhood Center facilities, Fire services, Libraries, Public Health facilities, Educational facilities, Institutional facilities, Wastewater, and Solid Waste facilities.[19] The Bicycle Plan Project would not increase or otherwise alter the form or level of demand on any of these facilities or services. The Bicycle Plan Project is therefore consistent with this *Community Facilities Element.*

Community Safety Element

The *Community Safety Element* is established to protect citizens from loss of life, injury, property loss, environmental damage, and social or economic disruption as a result of natural or technological disasters.[20] The Bicycle Plan Project would neither induce, nor affect the severity of natural or technological disasters (e.g. earthquakes). The implementation of a City-wide Emergency Operations Plan (specifically, movement of emergency vehicles around the City) is the only part of the *Community Safety Element* with the potential to be affected by implementation of the Bicycle Plan Project. Where intersection levels-of-service and signal timing would be affected by this Bicycle Plan Project, emergency vehicles would take precedence over both signalization and existing traffic flows, so could travel around any slowing at particular intersections. Therefore, the Bicycle Plan Project would not be inconsistent with the *Community Safety Element* of the *General Plan.*

Environmental Protection Element

The *Environmental Protection Element* has the goal of protecting what is not man-made in the environment. This element identifies several specific goals, including the elimination of pollution, and the conservation and management of energy in the City's transportation sector.[21] As is established in the analysis provided in this EIR, the Bicycle Plan Project would attempt to reduce personal automobile use, and replace this use with a combination of alternative modes with a particular emphasis on bicycling for commute and other transportation purposes. This could lead to a reduction in air pollution, as reduced vehicle use will lead to a reduction in vehicle-produced air pollutants. The conservation and management of transportation-related energy would also be accomplished by the Bicycle Plan Project's goal of replacing automobile

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19 City and County of San Francisco, Community Facilities Element, as amended through May 2008.

20 City and County of San Francisco, Community Safety Element, as amended through May 2008.

21 City and County of San Francisco, Environmental Protection Element, as amended through May 2008.

travel with bicycle travel. The Bicycle Plan Project would support, and could help to effectuate, the goals of the *Environmental Protection Element* of the *General Plan*.

Housing Element

San Francisco's *Housing Element* attempts to identify existing housing need, and propose ways to fill that need.[22] Implementation of the Bicycle Plan Project would have no effect on the level of the City's housing needs, or on the manner in which these needs are satisfied.

Recreation and Open Space Element

The *Recreation and Open Space Element* summarizes goals and policies that will provide for the repair, renovation, and maintenance of the City's parks, recreation facilities, and open space, both in park areas with a regional draw (such as Golden Gate Park), and in neighborhood park areas.[23] The Bicycle Plan Project would have no detrimental effect on the City's ability to retain, repair, maintain, and otherwise renovate existing or future park facilities. The Bicycle Plan Project would provide for the maintenance of open space alongside bicycle pathways and would, thereby, help to ensure the maintenance of some open spaces within the City.

Transportation Element

The *Transportation Element* has nine objectives, all of which focus on building a balanced, multi-modal transportation system that includes public transit, ridesharing, automobiles, bicycles, and pedestrians.[24] These nine objectives are discussed below.

Objective 1: Meet the needs of all residents and visitors for safe, convenient and inexpensive travel within San Francisco and between the City and other parts of the region while maintaining the high quality living environment of the Bay Area.

Objective 1 support transit use, safe pedestrian circulation, and includes several bicycle-specific policies:

Policy 1.3: "Give priority to **public transit and other alternatives to the private automobile as the means of meeting** San Francisco's transportation needs..." [text bolded by EIR author].

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22 City and County of San Francisco, Housing Element, as amended through May 2008.

23 City and County of San Francisco, Recreation and Open Space Element, as amended through May 2008.

24 City and County of San Francisco, Transportation Element, as amended through May 2008.

Policy 1.6: "Ensure choices among modes of travel and accommodate each mode when and where it is most appropriate..." Policy 1.3 notes that bicycling should be given priority for trips including (a) in parks, on trails, and on roads of particular scenic beauty; (b) for work trips generally within San Francisco; (c) where concentration of activity is high, such as where streets are narrow; (d) in neighborhood commercial districts; (e) for trips to sports, cultural, or other heavily attended events; (f) as a connector to and from transit, especially regional transit; and (g) where large numbers of people with limited means or low auto ownership arrive as a destination.

Policy 1.9 more generally supports the development of a multi-modal emergency transportation plan for the city.

The Bicycle Plan Project is consistent with Objective 1 of the *Transportation Element.*

Objective 2: Use the transportation system as a means for guiding development and improving the environment.

This objective focuses on matching the transportation system (road widths, potential traffic volumes on giving road segments, and transportation modes) with land uses (e.g. residential vs. downtown office uses). Bicycling is not explicitly discussed under Objective 2 policies, although Policy 2.2 is to, "Reduce pollution, noise and energy consumption." This goal is accomplished to the extent that bicycles replace automobiles for some travel in and around San Francisco.

The Bicycle Plan Project is consistent with Objective 2 of the *Transportation Element.*

Objective 3: Maintain and enhance San Francisco's position as a regional destination without inducing a greater volume of through automobile traffic.

The policies under Objective 3 address methods for keeping automobile traffic from entering the City in greater numbers than currently exist. The sole policy that addresses bicyclists is Policy 3.1, which states that, among other things, "Changes, retrofits or replacement to existing bridges and highways should include dedicated priority for high-occupancy vehicles and transit, and all

bridges should feature access for bicyclists and pedestrians" The Bicycle Plan Project includes the goal of allowing bicycle traffic on bridges both within and leading to/from San Francisco, including the Golden Gate bridge.

The Bicycle Plan Project is consistent with Objective 3 of the *Transportation Element.*

Objective 4: Maintain and enhance San Francisco's position as the hub of a regional, city-centered transit system.

The policies under Objective 4 strongly support transit use and transit priority into and out of San Francisco, and particularly the downtown area. Policy 4.6 is to, "Facilitate transfers between different transit modes and services by establishing simplified and coordinated fares and schedules, and by employing design and technology features to make transferring more convenient, **and increasing accommodations of bicycles on transit**" [text bolded by EIR author]. The Bicycle Plan Project includes specific goals and policies to increase accommodations and otherwise facilitate the movement of bicycles to and from the City, on public transit.

The Bicycle Plan Project is consistent with Objective 4 of the *Transportation Element.*

Objective 5: Support and enhance the role of San Francisco as a major destination and departure point for travelers making interstate, national and international trips.

The policies under Objective 5 neither support nor oppose the implementation of Bicycle Plan Project goals, actions, or policies. The Bicycle Plan Project is, therefore, not inconsistent with Objective 5 of the *Transportation Element.*

Objective 6: Develop regional, multi-modal facilities for the efficient movement of freight and goods.

The policies under Objective 6 neither support nor oppose the implementation of any Bicycle Plan Project goals, actions, or policies. The Bicycle Plan Project is, therefore, not inconsistent with Objective 6 of the *Transportation Element.*

Objective 7: Develop a parking strategy that encourages short-term parking at the periphery of downtown and long-term intercept parking at the periphery of the urbanized

Bay Area to meet the needs of long-distance commuters traveling by automobile to San Francisco or nearby destinations.

The policy emphasis under Objective 7 is the provision of long-term commuter parking outside of the downtown area, with the allowance for short-term parking, only, in the downtown. This Objective does not directly address bicycle use, but the Bicycle Plan Project does emphasize the provision of bicycle parking places in office buildings, such as the buildings downtown. This policy is entirely in keeping with the spirit of the Objective 7 parking provisions, which focus on minimizing the number of automobiles traveling to, and parking within, the downtown area on an average workday.

The Bicycle Plan Project is not inconsistent with Objective 7 of the *Transportation Element,* and may indirectly support this objective.

Objective 8: Clearly identify the Citywide Pedestrian and Bicycle Networks where they intersect with the Coast, Bay and Ridge trails.

The Bicycle Plan Project includes a clear identification of the bicycle route network, including an identification of points where the network meets with the Bay Trail, Coast Trail, and Ridge Trails. The project would also expand that network to increase linkages, thus allow for greater access to these trails.

The Bicycle Plan Project is consistent with Objective 8 of the *Transportation Element.*

Objective 9: Improve bicycle access to San Francisco from all outlying corridors.

The Bicycle Plan Project includes actions, goals, and policies that would increase bicycle access to San Francisco by way of various transit modes, and that would increase bicycle access to San Francisco by way of bridges and other surface modes.

The Bicycle Plan Project is, therefore, consistent with Objective 9 of the *Transportation Element* of the *General Plan.*

Urban Design Element

The *Urban Design Element* of the *General Plan* includes policies with regard to city pattern, conservation, major new development, and neighborhood environment. This element also

contains design guidelines related to height, bulk, building form, view corridors and streetscape measures.[25] The Bicycle Plan Project would not have any effect on land use patterns, nor building patterns, nor historic preservation, but would have a minor impact on streetscape. Some street trees may be removed or relocated in the process of installing bicycle facilities. Some streetscape may be improved as part of the City's expanded efforts to maintain the bicycle pathways and facilities. Bicycle Plan Project implementation would result in improved maintenance levels along streets with bicycle facilities, as roadway and path area maintenance are integral parts of the Bicycle Plan Project. The project would, therefore, not conflict with the *Urban Design Element* of the *General Plan*.

SAN FRANCISCO AREA PLANS

There are a total of eleven area plans within San Francisco. Because the Bicycle Plan Project would be implemented throughout the City, all eleven area plans were reviewed for consistency with the Bicycle Plan Project's goals, actions, and policies. None of the area plans would conflict with the Bicycle Plan Project.

Of the eleven area plans, bicycles are not mentioned in:

1. Chinatown Area Plan
2. Civic Center Area Plan
3. Downtown Area Plan
4. Van Ness Avenue Area Plan
5. South of Market Area Plan, although this area plan emphasizes the importance of using transit and non-automobile modes of transit (which would include bicycles)
6. Western Shoreline Area Plan, although this area plan emphasizes the importance of providing pedestrian circulation and access to Ocean Beach; the Bicycle Plan Project would improve bicycle circulation and access in these areas, which accomplishes a similar and compatible goal
7. Northeast Waterfront Area Plan, although this area plan emphasizes the importance of developing a transportation system that improves access for people and goods to and around Fisherman's Wharf (which would be accomplished through improvement of the bicycle route network so that people could bicycle to and from this area)

[25] City and County of San Francisco, Urban Design Element, as amended through May 2008.

8. Central Waterfront Area Plan, although this area plan emphasizes the importance of improving transportation accessibility to this area and of providing public access to the waterfront (both of which goals would be partially met through the Bicycle Plan Project implementation)

The three remaining area plans make explicit mention of bicycles, and all three of them are consistent with the Bicycle Plan Project:

1. The Rincon Hill Area Plan Objective 5.7 calls for the maintenance of a potential Bay Bridge bicycle/pedestrian/maintenance path, and Objective 5.5 calls for the management of area parking supplies so as to encourage travel by foot, public transportation, or bicycle.

2. The Market and Octavia Area Plan's overriding principal is that, "Streets that support and invite multiple uses, including safe and ample space for pedestrians, bicycles, and public transit are a more conducive setting for the public life on an urban hill than streets designed primarily to move vehicles." The Bicycle Plan Project proposed goals, policies, and actions are therefore consistent with the Rincon Hill Area Plan and the Market and Octavia Area Plan.

3. The Bayview Hunters Point Area Plan Objective 4 is to develop and maintain a system for the easy movement of people and goods, taking into account the needs of both local and through traffic. Policy 4.5 then specifies that a comprehensive system shall be created for pedestrian and bicycle circulation.

OTHER PLANS AND POLICIES

San Francisco Transportation Code

Similar to the *San Francisco Planning Code*, the Bicycle Plan Project would require amendments to the *San Francisco Transportation Code (Transportation Code)*. These amendments would allow for issuance of "fix-it" tickets to bicyclists in the right-of-way, for driver's education with a focus on bicycle safety, and for the distribution of bicycle safety-related materials as part of the standard enforcement activities under the *Transportation Code*. While these amendments would alter the current form of the *Transportation Code*, they would not fundamentally alter the intent, goals, or function of this code. In this sense the Bicycle Plan Project would be inconsistent with the current language of, and enforcement under, the *Transportation Code*, but only insofar as it would be altered to allow for increased safety, for all modes of transportation, on City roads. Therefore, the Bicycle Plan project would not alter the *Transportation Code* in a manner that

would conflict with any of the fundamental goals or policies of the *San Francisco Transportation Code.*

Better Streets Plan

The *Better Streets Plan* (draft June, 2008) focuses on creating a positive pedestrian environment through measures such as careful streetscape design, and traffic calming to increase pedestrian safety. The Bicycle Plan Project was designed to safely accommodate multi-modal transportation in the City of San Francisco. Particular attention was paid to designing improvements that would support safe and smooth interaction between pedestrians, automobiles, and bicycles, at intersections where all three modes may collect. The Bicycle Plan Project is consistent with the *Better Streets Plan.*

Sustainability Plan for the City of San Francisco

The *Sustainability Plan for the City of San Francisco* focuses on environmental impacts of development and of City projects. The topics studied include (1) Air Quality; (2) Biodiversity; (3) Energy, Climate Change and Ozone Depletion; (4) Food and Agriculture; (5) Hazardous Materials; (6) Human Health; (7) Parks, Open Spaces and Streetscapes; (8) Solid Waste; (9) Transportation; and (10) Water and Wastewater. Additional topics include the Economy and Economic Development; Environmental Justice; Municipal Expenditures; Public Information and Education; and Risk Management. The Bicycle Plan Project would not create any significant impacts in any of the aforementioned areas, except as otherwise discussed in this document. To the extent that some transportation improvements have been found to generate significant and unavoidable impacts (see discussion in Section V of this EIR), the Bicycle Plan Project may be somewhat inconsistent with any "zero impact" goals. However, any potential impacts of the Bicycle Plan Project would be more than offset by the benefits generated by increase bicycle use, thus improved regional air quality (through a reduction in vehicle emissions generated, when the Bicycle Plan Project is compared with the No Project scenario). Taken as a whole, the Bicycle Plan Project is not inconsistent with the goals of the *Sustainability Plan for the City of San Francisco.*

Bay Area Air Quality Plan, Water and Wastewater Resources and Treatment Plans, Habitat Conservation Plans, and Housing Plans and Policies

The Bicycle Plan Project impacts on air quality have been analyzed in this EIR (see Section V) and found to be less-than-significant. The Bicycle Plan Project therefore would not conflict with the Bay Area Air Quality Plan, or any other air quality management plan. In the Initial Study published on March 15, 2008 (see Appendix A), the Bicycle Plan Project was found to have no

potential to impact water or wastewater resources, and to have no potential to impact local ecology, flora, and fauna. Therefore, the Bicycle Plan Project would not conflict with the *San Francisco Regional Water Quality Control Board Basin Plan* or any area-wide waste treatment plans, and would also not conflict with any local and regional habitat conservation plans and natural community conservation plans, the *San Francisco Bay Plan*, or coastal zone protection plans. Finally, the Initial Study found that the Bicycle Plan Project would have no potential to impact Population and Housing in the City of San Francisco, or surrounding region. Therefore, the Bicycle Plan Project would not conflict with regional housing allocation plans, or the City of San Francisco's housing policies.

V. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

A. TRANSPORTATION

1. OVERVIEW AND ORGANIZATION

This Transportation section of the Environmental Impact Report (EIR) presents both program-level and project-level analysis of the potential transportation-related impacts resulting from the Bicycle Plan Project. This Introduction subsection provides an overview of the Bicycle Plan as well as a description of the Plan's elements. In addition, this section provides information about the *San Francisco Bicycle Plan Update Transportation Impact Study* (TIS), prepared by Wilbur Smith Associates for the San Francisco Bicycle Plan Update, and published on October 28, 2008. The TIS provides the basis for the transportation analysis in this EIR and an explanation regarding program-level review and project-level review for potential transportation impacts has also been provided. Subsection V.A.2, Program-Level Review, on p. V.A.2-1, provides program-level review of the updated Bicycle Plan including its goals, objectives, and action items to further the plan goals. Subsection V.A.3, Project-Level Review, on p. V.A.3-1, presents the complete project descriptions as well as the project-level analysis for the 60 design-ready near-term bicycle improvements. Project drawings for the near-term improvements are provided in Appendix B. Many of these drawings are the same as those attached to the Initial Study for this project. However, there have been some minor revisions so there are drawings in this Appendix B which differ from those attached to the Initial Study.[1] These near-term improvements are anticipated to be implemented within five years of project approval. Subsections V.A.4 and V.A.5, minor improvements and long-term improvements, which begin on p. V.A.4-1 and p. V.A.5-1, respectively, provide program-level review of the minor improvements and long-term improvements anticipated as part of the ongoing or future activities of the Bicycle Program, and provide a summary of the conclusions regarding the

[1] The Initial Study for the Bicycle Plan Project EIR was published on March 15, 2008 with an Appendix of Project Drawings (Appendix A of the Initial Study). Some of the project drawings have been modified. A current set of project drawings for the near-term improvements is attached to this as Appendix B. Therefore, Appendix A of the Initial Study is not attached to this document. The old project drawings are available online at the Planning Department Wed site, *www.sfplanning.org/mea* as part of the Initial Study, or they may be viewed by appointment at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, as part of Case File 2007.0347E.

transportation-related potential environmental effects resulting from the implementation of the Bicycle Plan Project.

PURPOSE OF THE TRANSPORTATION IMPACT STUDY

The Transportation Impact Study[2] (TIS) completed by Wilbur Smith Associates provides a comprehensive analysis of the potential environmental impacts of the project on the transportation system, which is herein incorporated into the Draft Environmental Impact Report (DEIR).

A comprehensive local transportation system considers overlapping segments related to regional transportation, congestion management, vehicle circulation, transit, pedestrians, bicycles, citywide parking, and goods movement. Under the California Vehicle Code, bicycles are permitted on any street in the local street network. However, conditions for cyclists within the City's street network vary. The Bicycle Plan includes a network of interconnected streets on which bicycling is encouraged, through the implementation of bicycle facilities and other treatments that improve conditions for cyclists. Although some bicycle facilities were implemented in San Francisco prior to 1997, the City's first defined bicycle route network was developed as part of the 1997 Bicycle Plan.

The Bicycle Plan continues to strive for a comprehensive bicycle route network that provides safe access for bicyclists to all areas of the City. As described above in Section IV. Project Description, on p. IV.A-1, the 2002 planning process identified gaps in the network and suggested improvement projects, both near-term and long-term, to address these gaps. In addition, the Bicycle Plan has identified a set of minor improvement treatments that would be used, as necessary, to improve conditions for cyclists throughout the City. The intention of the ongoing Bicycle Program is to refine and expand the bicycle route network and to achieve its vision of making bicycling an integral part of daily life in San Francisco.

Environmental review of transportation impacts of the Bicycle Plan, and its ongoing programs, has been conducted at a program level. Near-term improvements have been reviewed at the project level, because these have specific project designs and are proposed for adoption and implementation when the environmental review process is complete and the injunction has been lifted. This transportation section presents the existing transportation conditions and assesses the transportation impacts associated with the Bicycle Plan Project. The following

[2] Wilbur Smith Associates – *San Francisco Bicycle Plan Update Transportation Impact Study*, October 28, 2008; available for viewing as part of Case File No. 2007.0347E.

transportation elements are addressed in this study: traffic impacts, transit impacts, parking impacts, pedestrian impacts, bicycle impacts, and loading impacts.[3]

ORGANIZATION OF THE TRANSPORTATION IMPACT STUDY

This document has been organized to provide the project-level and program-level review of transportation and transportation-related impacts in four primary subsections. Each of these subsections is followed by a checklist which shows the project or action contemplated, and indicates the potential for that project or action to create a significant impact for the physical environment. These impacts are separated into potential impacts on traffic, parking, transit, pedestrians, bicycles, and loading facilities.

THE BICYCLE PLAN (policies) (Subsection V.A.2)

The Bicycle Plan policies discussed in V.A.2 consist of eight goals, namely, (1) refine and expand the existing bicycle route network; (2) ensure plentiful, high-quality bicycle parking to complement the bicycle route network; (3) expand bicycle access to transit and bridges (4) educate the public about bicycle safety; (5) improve bicycle safety through targeted enforcement; (6) promote and encourage safe bicycling; (7) adopt bicycle-friendly practices and policies; and (8) prioritize and increase bicycle funding, all of which are analyzed at a program level (see Subsection V.A.2, p. V.A.2-1) in order to assess the transportation impacts resulting from their implementation. Many of the goals, objectives and action items would not directly change conditions within the environment, but are still discussed in this report. For those that may result in potential environmental impacts, an analysis is being provided to identify what the potential effects are, as well as the level of significance of those effects.

NEAR-TERM IMPROVEMENTS (Subsection V.A.3)

Each of the segments proposed for improvement is part of a transportation network, the goal of which is to promote safe access via travel by bicycle to all areas of the City. The project-level transportation analysis for the 60 near-term improvements must consider the potential impacts of each project, including the variations encompassed by the alternative options being considered. However, as alterations to a city-wide transportation network, the analysis of these near-term improvements must also address the combined impacts of multiple projects within the same vicinity. For this reason, the near-term improvements have been grouped by geographic proximity into eight clusters in order to evaluate and understand the potential

[3] As required by the San Francisco Planning Department Guidelines.

combined transportation-related impacts related to the implementation of projects in close proximity to one another. When a specific project is referred to by number in this EIR, the first number represents the analysis cluster in which the project is located. The second number represents an identifier to distinguish projects within an analysis cluster.

This EIR provides information regarding the extent of potential environmental impacts resulting from the Bicycle Plan. It also covers several options for the near-term improvements so that decision makers may decide between several near-term options based on full disclosure of likely impacts on all modes of transportation. These near-term improvements are identified and discussed in Subsection V.A.3, p. V.A.3-1.

MINOR IMPROVEMENTS (Subsection V.A.4)

The Bicycle Program staff has also identified a set of minor improvement treatments which may be used to address issues as they arise. The Bicycle Program would benefit from the ability to implement these minor improvements on an as-needed basis to further the goals of the Bicycle Plan. These treatments would result in minor modifications to the physical environment, wherever implemented. These treatments are analyzed at a program level (see Subsection V.A.4, p. V.A.4-1). The transportation impact analysis provided here addresses the potential environmental impacts resulting from the implementation of these treatments. Upon completion of the environmental review process, it is anticipated that these treatments may be utilized in appropriate locations throughout the City to improve conditions for cyclists and further the Bicycle Plan goals.

LONG-TERM IMPROVEMENTS (Subsection V.A.5)

The segments proposed for long-term improvements have been identified to address gaps within the City bicycle route network. Specific designs for these segments are unknown at this time. However, potential design elements for these projects have been identified. The program-level transportation impact analysis for the long-term improvements addresses the role of these segments in the network as well as how they facilitate the goals of the ongoing program (see Subsection V.A.5, p. V.A.5-1). The analysis discusses the program-level effects of including these segments in the network.

PROGRAM-LEVEL VS. PROJECT-LEVEL ANALYSIS OF TRANSPORTATION IMPACTS

PROGRAM-LEVEL REVIEW

Under CEQA, program-level environmental review is used in environmental analyses for a series of actions that can be characterized as one large project because they are logically related. The series of actions can be related geographically or can be logical parts in a chain of contemplated actions.

Program-level review is used in connection with issuance of rules, plans, or other general criteria, to govern the conduct of a continuing or proposed program. For some site-specific purposes, a program-level environmental document may provide enough detail to enable an agency to make informed site-specific decisions within the program, allowing an agency to carry out an entire program without having to prepare additional site-specific environmental documents. In other cases, the formulation of details regarding site-specific issues is unknown until subsequent design development and the preparation of later project-level environmental documents. In such situations, the program-level EIR may properly focus on "broad policy alternatives and programmatic mitigation measures," as well as "regional influences, secondary effects, cumulative impacts...and other factors that apply to the program as a whole," [CEQA Guidelines, Section 15168, subds. (b)(4), (d)(2).] Program-level review is also appropriate for individual activities carried out under the same authorizing statutory or regulatory authority, having generally similar environmental effects that can be mitigated in similar ways. [CEQA Guidelines, Section 15168.]

The San Francisco Bicycle Program is an ongoing program to facilitate and increase the safe use of bicycles as a mode of transportation with the City. The updated Bicycle Plan sets the foundation for the associated near-term, long-term, and minor improvements to the existing bicycle route network. These improvement projects are a logically related series of actions to achieve the overall goal of increasing bicycle use within the City.

The program-level review in this section will provide program-level transportation impact analysis of the following elements of the Bicycle Plan Project: the Bicycle Plan's goals, objectives and action items including the existing bicycle route network, minor improvements, and long-term improvements. All of these further the goals of the Bicycle Plan and Program. These elements are described in more detail above and in Subsections V.A.2, V.A.4, and V.A.5 of this Transportation section.

PROJECT-LEVEL REVIEW

Under CEQA, project-level environmental analysis examines the environmental impacts of an individual project, and examines phases of the project including construction and operation. Project-level analysis may be conducted once a sufficient level of detail is known regarding a proposed project. With a detailed project description and an understanding of the existing environmental conditions, the potential environmental effects of the proposed project may be understood and analyzed.

As previously described, the Bicycle Plan Project proposes 60 near-term improvements for the bicycle route network. These projects are fully described in Subsection V.A.3, Project-Level Review, on p. V.A.3-1 of this Transportation section of this EIR. The implementation of these design-ready projects would close network gaps and improve bicyclists' safety and experience, increasing ridership to meet the overall Bicycle Program goal. The analysis provides an assessment of traffic, transit, parking, pedestrian, bicycle, and loading impacts resulting from the near-term improvements. Most of these projects include two potential alternatives: one alternative that offers an option that would affect one or more modes (e.g., removal of mixed traffic lanes and/or greatest potential to impede transit operations), and another alternative that would be less likely to impact other modes (e.g., parking removals instead of traffic lane removals, changes to sidewalks, installation of sharrows, or alternate routing of bicycle routes). The existing conditions for each area of project effect are provided as well as an evaluation of the changes that would result following implementation of each project, including those resulting from implementation of proposed alternative options.

The project-level transportation analysis in Subsection V.A-3, p. V.A.3-1 of this chapter is intended to provide project-level environmental clearance for these 60 design-ready near-term improvements. Following certification of the Bicycle Plan Project EIR, no further environmental review would be required to implement these 60 near-term improvements. Implementation of these near-term improvements is anticipated within five years of project approval.

TRANSPORTATION SETTING

The geographic setting of San Francisco is a fundamental part of its celebrated quality of life. The City is challenged to accommodate the transportation needs of its residents, while preserving and enhancing the qualities that make it a desirable place to live, despite its being surrounded on three sides by water and having a varied topography. As mandated by its Transit First Policy, the City's transportation system seeks to achieve balance between travel

modes, in order to control and reshape the impact of automobiles on the City. To that end, the City's goals include improvements to and promotion of alternative transportation modes such as public transit, ridesharing, bicycling and walking. Below is a general summary and overview of transportation conditions in San Francisco.

Roadway Network

Most San Francisco roadways are aligned on a grid system. The typical block in the South of Market area is four times as large as the typical block North of Market. The grid offers multiple route options for getting from place to place, although aberrations in the grid (particularly along Market Street and in the vicinity of hills) can offer connectivity challenges. The *San Francisco General Plan (General Plan)* contains definitions and regulatory requirements for a variety of roadway classifications that make up the City's grid.

City roadway designations include (listed in order of potential capacity) Freeways, Major Arterials, Transit Conflict Streets, Secondary Arterials, Recreational Streets, Collector Streets, and Local Streets. Each of these roadways has a different potential capacity for traffic, and for changes that may alter traffic patterns on the given roadway. The *General Plan* also recognizes certain Transit Preferential Streets from among the City's various roadways, each of which is identified as a Primary Transit Street – Transit Oriented, a Primary Transit Street – Transit Important, or a Secondary Transit Street. The Pedestrian Network is a classification of streets throughout the City used to identify streets devoted to or primarily oriented to pedestrian use, and include Citywide Pedestrian Network Streets, and Neighborhood Network Streets.[4]

Regional Access

San Francisco is well-served by regional facilities, including Interstate 80 (I-80), United States Highway 101 (US 101), and Interstate 280 (I-280). In addition, State Highways 1 and 35 also serve portions of the City.

US 101 serves San Francisco and the Peninsula/South Bay and extends north via the Golden Gate Bridge to the North Bay. Within the City, portions of US 101 follow the local street network, primarily along Van Ness Avenue and Lombard Street west of Van Ness Avenue. I-80 connects San Francisco to the East Bay and points east, via the San Francisco-Oakland Bay Bridge. I-280 provides regional access to western San Francisco and the South Bay/Peninsula.

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[4] *San Francisco General Plan*, 2007 Transportation Element, Table 1. Classification of Elements in Vehicle Circulation Plan.

In addition, state highways on local streets include the following: California Highway 1 follows along 19th Avenue, Cross Over Park Drive through Golden Gate Park, Park Presidio Boulevard, Veterans Boulevard, and Doyle Drive in the Presidio. California Highway 35 follows along Skyline Boulevard and Sloat Boulevard.

In general, bicycles and pedestrians are not allowed on freeways, but are permitted on the state highways within San Francisco. Additionally, the Golden Gate Bridge has both bicycle/pedestrian facilities, and the new eastern span of the San Francisco Oakland Bay Bridge will add a Class I Bike facility that will terminate at Treasure Island.

Local Roadway Network

San Francisco has over 880 lane miles of streets in its roadway network.[5] As described in *General Plan* (and discussed above) there are a variety of types of roadways in the City, and the function and design of each street are consistent with the character and use of adjacent land. These roadway classifications also consider desired travel speed and appropriate provision of access. Pursuant to the California Vehicle Code, bicycles are allowed on any street within the local street system. However, the existing bicycle route network identifies a series of interconnected streets and pathways on which bicycling is encouraged. The particular local street setting, for near-term and long-term improvements proposed by the Bicycle Plan, are more specifically described in the analysis in Subsections V.A.4 and V.A.5 of this report.

Local Access and Circulation

Portions of the City's roadway network have a regular grid pattern with north-to-south and east-to-west roadways such as that found in the Sunset, the Richmond, much of the area north of Market Street in North Beach, Chinatown, and Nob Hill, Castro/Noe Valley, the Mission, and portions of Potrero Hill. However, in a number of areas, roadway development has been influenced by the hilly terrain. These areas include Twin Peaks, Glen Park, Forest Hill, Diamond Heights, and Bernal Heights, among others. In addition, the area south of Market Street was aligned in a grid oriented as Market Street in a southwest to northeast orientation with much larger blocks.

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[5] San Francisco Municipal Transportation Agency, 2008. Traffic. Online at http://www.sfmta.com/cms/vhome/hometraffic.htm_[Accessed August 24, 2008].

Intersection Control

The City maintains more than 1,100 traffic signals to manage intersection operations.[6] These operations are measured in terms of a grading system called Level of Service (LOS), which is based on the average motor vehicle delay experienced at a given intersection. That delay is a function of motor vehicle volumes, lane configuration, and signal timing, among other factors. Intersection operating conditions are provided in Subsection V.A.3 of this report, the project-level analysis of the near-term improvements.

Transit Network

This section describes the transit network within San Francisco. Generally, the City is well-served by public transit; however, there are isolated areas without nearby transit service, and/or with infrequent service. Due to topography constraints and discontinuity of the street network in places, portions of neighborhoods can be isolated from convenient transit service.

Local service is provided by the San Francisco Municipal Railway (Muni), the transit division of the San Francisco Municipal Transportation Agency (SFMTA). Muni bus, cable car and light rail lines can be used to access regional transit operators. Service to and from the East Bay is provided by BART, AC Transit and ferries; service to and from the North Bay is provided by Golden Gate Transit buses and ferries; and service to and from the Peninsula and South Bay is provided by Caltrain, SamTrans, and BART.

Local Muni Service

Specific information regarding conditions of the local Muni service for the near-term improvements is provided in the analysis in Subsection V.A.3. In addition, general information regarding local Muni service is provided for the long-term improvements in Subsection V.A.4. In general, bicycles may be placed on the front rack of Muni buses. Bicycles are not allowed on Muni light rails vehicles or cable cars.

Regional Providers

Five principal regional transit providers serve San Francisco: BART from the East Bay and Peninsula; SamTrans and Caltrain from the Peninsula; AC Transit from the East Bay, and Golden Gate Bridge, Highway and Transportation District (GGBHTD) from the North Bay.

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[6] San Francisco Municipal Transportation Agency (SFMTA 2008). Traffic. Online at http://www.sfmta.com/cms/vhome/hometraffic.htm [Accessed August 17, 2008].

There are two additional ferry providers, besides GGBHTD, and these are discussed in the section on ferry service.

BART

BART operates regional rail transit service in the metropolitan Bay Area. BART provides service along Market and Mission Streets. BART currently operates six lines: Pittsburg/Bay Point to Millbrae, Fremont to Daly City, Richmond to Daly City, Fremont to Richmond, Dublin/Pleasanton to San Francisco International Airport (SFIA), and Millbrae to SFIA. During the weekday p.m. peak period, headways are generally 5 to 15 minutes for each line.

Bicycles are allowed on most trains, except those highlighted in the BART schedule, which are peak commute times morning and evening. Bicycles are never allowed on crowded cars and bicyclists must yield to all other passengers and yield priority seating to seniors and persons with disabilities.[7]

Caltrain

Caltrain provides rail passenger service on the Peninsula, between Gilroy and San Francisco. The Peninsula Corridor Joint Powers Board (JPB), a joint powers agency consisting of San Francisco, San Mateo, and Santa Clara Counties, operates the service. Caltrain currently operates 86 trains each weekday, with a combination of baby bullet, express, and local services. Headways during the PM peak period are approximately ten to thirty minutes. The San Francisco Caltrain terminal is located on Fourth Street, between King and Townsend Streets. The 22nd Street Caltrain station is located at 22nd Street and Pennsylvania Street. Caltrain also is planned to run to the new Transbay Terminal on Mission Street through an underground tunnel. This project is anticipated to be constructed after reconstruction of the Transbay Terminal and when project funding becomes available.

Bicycles are allowed on designated cars on Caltrain trains. Should a designated bicycle car be full, waiting bicyclists must wait to board the next train. The number of bicycles is limited to 32 per gallery car train and 16 per Baby Bullet train.[8]

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7 BART. 2008. Bikes on BART. Online at http://www.bart.gov/guide/bikes/index.aspx [accessed August 17, 2008].

8 Caltrain. 2008. Caltrain's Bicycle Program. Online at http://www.caltrain.com/info_bicycle_program.html [accessed August 17, 2008].

SamTrans

SamTrans operated by the San Mateo County Transit District, provides bus service between San Mateo County and San Francisco. SamTrans operates 12 diesel bus lines that serve San Francisco, including nine routes into the downtown area. Nine of these routes operate as peak-only commute routes, one route operates as an express route, and two routes provide service throughout the day. Headways during the PM peak period are approximately 20 to 30 minutes per line.

In general, SamTrans service to downtown San Francisco operates along Mission Street to the Transbay Terminal located at first and Mission Streets. It should be noted that SamTrans cannot pick up northbound passengers at San Francisco stops, and southbound passengers boarding in San Francisco may not disembark in San Francisco. SamTrans buses are equipped with bicycle racks, which hold two bicycles. Two additional bicycles are allowed inside the bus, depending on passenger loads.[9]

AC Transit

AC Transit is the primary bus operator for the East Bay, including Alameda and western Contra Costa Counties. AC Transit operates 37 routes between the East Bay and San Francisco, all of which terminate at the Transbay Transit Terminal, located on Mission Street, between First and Fremont Streets. Most transbay service is peak-hour and peak-direction (to San Francisco during the AM peak period and from San Francisco during the PM peak period), with headways of 15 to 30 minutes per route. All AC Transit buses are equipped with front-mounted racks that hold two bicycles. On commuter coaches, two additional bicycles can be stored in the cargo bays (one bicycle per bay) when the front rack is full.[10]

Golden Gate Transit (bus service)

Golden Gate Transit, operated by the GGBHTD, provides bus service between the North Bay (Marin and Sonoma Counties) and San Francisco. Golden Gate Transit operates 18 commute bus routes and two basic routes, with service between cities in the North Bay and San Francisco. Most routes serve either the Civic Center (via Van Ness Avenue and Mission Streets) or the Financial District (via Battery and Sansome Streets). Basic bus routes operate at 15 to 90 minute

[9] SamTrans. 2008. Bikes on SamTrans. Online at http://www.samtrans.org/bikes.html [accessed August 17, 2008].

[10] AC Transit. 2008. Bikes on Buses. Online at http://www2.actransit.org/riderinfo/bikes.wu [accessed August 17, 2008].

intervals, depending on the time and day of the week. Commute and ferry feeder bus routes operate at more frequent intervals in the mornings and evenings. Golden Gate Transit does not provide local service within San Francisco. On buses from the North Bay to San Francisco, beyond the Golden Gate Bridge toll booth and Richardson Transfer Center, only alighting is allowed at stops within downtown San Francisco. Conversely, on buses from San Francisco to the North Bay, only boarding is allowed at stops within downtown San Francisco. All GGT buses are equipped with bicycle racks. Articulated buses, and buses that are 40-feet long or less are equipped with exterior bicycle racks at the front of the bus. Luggage bay bicycle racks are installed on all 45-foot MCI buses.[11]

Golden Gate Transit (ferry service)

The GGBHTD also provides ferry service between the North Bay and San Francisco. During the AM and PM peak periods, ferries operate between Larkspur and San Francisco and between Sausalito and San Francisco. The San Francisco ferry terminal is located at the Ferry Building, on the Embarcadero at Market Street. Approximately 1,400 passengers ride the ferry to Larkspur and approximately 340 passengers ride the ferry to Sausalito during the PM peak hour. Bicycles are welcome aboard all Golden Gate Ferries on a first-come, first-served basis. GGF vessels can accommodate a limited number of bicycles depending on the destination and vessel type.[12]

Other Ferry Service

Ferry terminals in San Francisco are located at the Ferry Building, at the foot of Market Street, and at Pier 41 at Fisherman's Wharf. Alameda Harbor Bay Ferry connects Harbor Bay Isle with the Ferry Building on weekdays during the AM and PM peak periods, and has bicycle racks on board.[13] The Blue & Gold Fleet operates ferries between San Francisco and Vallejo, via the Vallejo Baylink that operates daily from approximately 5:30 a.m. to 9:50 p.m. The Blue & Gold Tiburon Ferries travel from Tiburon to the Ferry Building from 6:00 a.m. to 8:30 a.m. and from 4:30 p.m. to 7:30 p.m. peak hours weekdays. The company also operates mid-day and weekend service in both directions, between Tiburon and San Francisco's Pier 41. Alameda/Oakland Ferry Service operates approximately hourly each day from Oakland's Jack London Square, via

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[11] Golden Gate Transit. 2008. Bikes & Buses. Online at http://goldengatetransit.org/services/bikes.php [accessed August 17, 2008].

[12] Golden Gate Ferries. 2008. Bikes & Ferries. Online at http://goldengateferry.org/services/bikes.php [accessed August 17, 2008].

[13] Alameda Harbor Bay Ferry. 2008. http://www.alamedaharborbayferry.com/index1.php [accessed August 17, 2008].

Alameda Gateway Ferry Terminal, to the Ferry Building. Bicycles are allowed on ferries subject to the specific restrictions of each ferry provider.

Pedestrian

San Francisco is a pedestrian-oriented city as a result of its high density of development, the low level of resident automobile ownership, the widespread availability of transit, the existence of large areas of parkland, and the provision of extensive pedestrian amenities. In addition, the City's temperate climate makes year-round walking possible. Out of all US cities with at least 250,000 people, San Francisco has the 3rd highest percentage (9.6 percent) of commuters that walk to work for cities, just behind Boston and Washington D.C.[14]

There are few locations throughout the city where sidewalks are not provided. Sidewalks and walkways vary, but generally range from 7 to 15 feet in width. Some boulevards, such as the Embarcadero, have widths up to 25 feet. Market Street also has wider than average sidewalks for much of its length. A number of roadways include street trees and planting strips, between the sidewalk and curb, to separate pedestrians from vehicular traffic and provide aesthetic benefit. Most of the City's major intersections have crosswalks and pedestrian signals. Over 50 intersections have Accessible Pedestrian Signal (APS)[15] installed.[16] In addition, 740 of 1155 signalized intersections (65 percent) have pedestrian countdown signals for all crosswalks.[17]

There are approximately 5,300 square blocks of sidewalks citywide. The fronting property owners are responsible for the maintenance of a majority (97 percent) of these sidewalks. In 2007, the Department of Public Works (DPW) implemented the Sidewalk Inspection and Repair Program (SIRP), with a goal of inspecting and repairing approximately 200 square blocks each year. This ongoing facility maintenance and management process would systematically evaluate the city's sidewalks for hazardous conditions such as vertical displacement, cracks or

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14 United States Census. 2005. 2005 American Community Survey. Walk to Work, 50 Cities with The Most Workers Age 16 and Over, by Percentage. Online at http://www.census.gov/Press-Release/www/2007/Pub_Trans_Tables.xls [Accessed August 25, 2008.].

15 An Accessible Pedestrian Signal (APS) is a pedestrian pushbutton that communicates when to cross the street in a non-visual manner, such as audible tones, speech messages, and vibrating surfaces.

16 San Francisco Municipal Transportation Agency. 2008. Accessible Pedestrian Signals. Online at http://www.sfmta.com/cms/wproj/aps.htm [Accessed August 25, 2008].

17 San Francisco. Draft Better Streets Plan. 2008. Online at http://www.sfgov.org/site/uploadedfiles/planning/Citywide/Better_Streets/index.htm [Accessed August 25, 2008].

voids among other conditions.[18] Work areas would be prioritized and needed work scheduled.[19]

Bicycle

San Francisco has had a bicycle route network since the adoption of the 1997 Bicycle Plan. The goal of the Bicycle Program is to provide bicycle facilities to promote the use of bicycles so that they can successfully be used for most transportation needs, including commuting, shopping, errands, and recreation. Bikeways are typically classified as Class I, Class II, or Class III facilities. Class I bikeways are bicycle paths with exclusive right-of-way for use by bicyclists or pedestrians. Class II bikeways are bicycle lanes striped with the paved areas of roadways, and established for the preferential use of bicycles, while Class III bikeways are signed bicycle routes that allow bicycles to share streets or sidewalks with vehicles or pedestrians. Bicycle parking, both within the public right-of-way and within parking structures and other buildings, support bicycle travel in the city. Some deficiencies and gaps in the City's bicycle infrastructure have been identified and would be addressed through the implementation of the updated Bicycle Plan.

Existing bikeways are described in Chapter 2 of this EIR. Currently, San Francisco has 23 miles of Class I facilities, 45 miles of Class II facilities, 79 miles of Class III facilities, 53 miles of Class IIIA[20] facilities, and eight miles of other facilities that do not have official Caltrans designation. The public right-of-way throughout San Francisco also includes over 3,500 parking spaces for cyclists. The Municipal Transportation Agency issues permits for bicycle rack installation in the public right-of-way. Although the bicycle racks would be installed by the SFMTA Bicycle Program free of charge, a permit is required. In addition, more than 50 garages have been brought into compliance with the City Ordinance requiring bicycle parking. SFMTA's Bicycle Program administers over 60 bicycle lockers in various locations, and makes them available for rent by bicycle commuters.

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18 San Francisco Department of Public Works. 2008. Good Neighbor Guidelines for the Repair of Sidewalk Defects (DPW Order 177, 526) and Guidelines for Inspection of Sidewalk Defects (DPW Order 177,525). These documents are available for review by appointment at the Planning Department, 1650 Mission Street, Suite 400, San Francisco as part of Case File 2007.0347E.

19 San Francisco Mayor's Office on Disability and Department of Public Works. 2008. Americans with Disabilities Act Transition Plan for Curb Ramps and Sidewalks, Updates and Revisions, 2007-2008. Online at http://www.sfgov.org/site/uploadedfiles/mod/RampSidewalk08.pdf. [Accessed August 25, 2008].

20 Class III bikeways are signed bicycle routes that allow bicycles to share streets or sidewalks with vehicles or pedestrians.

Parking

Provision of parking varies depending upon the location within the City. Most San Francisco streets include curbside parking, and metered parking is typical in the downtown area and in commercial districts throughout the City. Downtown, and in some local shopping areas, where demand is highest, parking is also available in above-ground and below-ground parking structures, as well as in surface lots. Most, if not all, of these facilities charge a fee for the provision of parking. San Francisco's streets with on-street parking allow for a range of parking configurations, including parallel parking, diagonal parking, and perpendicular parking. Un-metered (or otherwise unrestricted) on-street parking is generally available in residential areas, except for those area with residential parking permits (RPP). RPP regulations generally restrict on-street parking to a one-hour or two-hour period except for residents, but vary on the days of week and the time of day that the regulations are in effect. Residential properties may include garages, or may require on-street parking.

OTHER PLANNING EFFORTS

In addition to changes resulting from implementation of the Bicycle Plan, there are several current planning efforts that would also affect the design of streets and facilities within them in San Francisco. These are the Better Streets Plan, Livable Streets (particularly the Traffic Calming component), and Transit Effectiveness Project (TEP). The Better Streets Plan is a multi-agency effort to comprehensively plan for streets that was initiated by the adoption of the City's Better Streets Policy in 2006.[21] The draft Better Streets Plan was published in June 2008. The Better Streets Plan seeks to develop street design concepts that balance the needs of all street users, but has a focus on the pedestrian environment, generally the areas of sidewalks and crosswalks. A supporting principle of the Better Streets Policy is to support and invite streets with multiple uses including safe, active, ample space for pedestrians, bicycles and public transit. Such streets are more conducive to the public life of an urban neighborhood, and the efficient movement of people and goods, than streets designed to move automobiles. Decisions regarding the design and use of the City's limited public street space shall prioritize space for pedestrians, bicycles, and public transit over space for automobiles.[22]

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[21] San Francisco Administrative Code, Chapter 98, Better Streets Policy. Adopted February 2006.

[22] San Francisco Planning Department. 2008. Better Streets San Francisco. Online at: http://www.sfgov.org/site/uploadedfiles/planning/Citywide/Better_Streets/index.htm [Accessed August 24, 2008].

SFMTA's Traffic Calming Program, is part of the City's Livable Streets effort to improve safety on San Francisco's streets. Livable Streets was launched in 2000 to address some of the traffic problems associated with the growing number of cars in San Francisco. A goal of the Traffic Calming Program is to make neighborhood streets friendlier for pedestrians, children, bicyclists, and motorists. The Traffic Calming Program uses innovative tools and methods to address traffic problems such as speeding, reckless driving, pedestrian safety, traffic spillover from main arterials to local roads, excessive noise and traffic levels, road rage, and the impact of crowded highways and main streets on driver behavior. The goal of the Traffic Calming Program is safer streets for everyone, without restricting access to anyone.[23]

The TEP is a partnership between the SFMTA and the Controller's Office, to increase the effectiveness of the City's public transit system. The TEP was launched in May 2006 and is the first comprehensive effort in over 25 years to review Muni and recommend ways to transform it into a faster, more reliable and more efficient public transit system for San Francisco. Challenges which Muni hopes to address through the TEP include changing travel patterns, increasing costs, and operational and physical constraints that affect on-time performance. These challenges highlight the need for system-wide improvements. The collection of ridership data, and proposals from the public, city staff, and many community organizations, inform the TEP staff in this process.[24]

All of these programs look to improve the function of San Francisco streets as a system for travel, but seek also to maintain public space and open space. These programs overlap in their ultimate goal of improving the conditions of San Francisco's streets for transportation by all modes of travel. While each program or project has a slightly different focus, all consider the compatible implementation of improvements to balance and facilitate multiple travel modes within San Francisco's streetscape.

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[23] San Francisco Municipal Transportation Agency. 2008. Livable Streets: Traffic Calming. Online at http://www.sfmta.com/cms/ocalm/indxlicalm.htm [accessed August 24, 2008].

[24] San Francisco Municipal Transportation Agency. 2008. The Transit Effectiveness Project. Online at http://www.sfmta.com/cms/mtep/tepover.htm [Accessed August 24, 2008].

2. BICYCLE PLAN PROGRAM-LEVEL REVIEW

INTRODUCTION

This section discusses the program-level impacts that would result from the revised policies, goals, objectives, and action items of the Bicycle Plan. Subsections V.A.3, V.A.4, and V.A.5 of this document provide further environmental analysis of improvements and physical changes proposed under these policies.

Program-level analysis of impacts under CEQA, for policies such as those discussed in this chapter, requires two primary levels of review. The actions resulting from the goals and objectives of the Bicycle Plan, discussed in this section, result from policies that would be adopted as part of the Bicycle Plan. Under CEQA, the given policy must therefore be analyzed to establish the extent to which the act of adopting the policy might create physical environmental impacts and the significance of those impacts, if any.

In addition to analyzing the impacts of the primary action, indirect or secondary impacts of that action, such as whether the adoption of a policy would lead to physical environmental impacts, must also be identified and evaluated for their potential to have a significant impact on the physical environment. In this case, the actions supported by Bicycle Plan policies, such as creation of new bicycle paths, must be analyzed for their potential to have a significant impact on the environment.

The following discussion is organized to coincide with Chapter 2 of the Wilbur Smith Associates *San Francisco Bicycle Plan Update Transportation Impact Study*[1] (TIS). This CEQA analysis reviews and discusses each proposed policy Action in sequence.

OVERALL BICYCLE PLAN GOALS, OBJECTIVES, AND ACTION ITEMS

Chapter 2 of the transportation impact study includes the program-level review for the revised policies of the Bicycle Plan to be incorporated into the San Francisco *General Plan, Planning Code,* and *Transportation Code.* These Bicycle Plan Goals, Objectives and Action Items are described in this Subsection V.A.2, and evaluated for their potential to affect physical change to the environment through the proposed changes to the transportation network. In sum, the Bicycle

[1] Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study.* This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA as part of Case File No. 2007.0347E.

Plan Goals, Objectives and Action items are intended to achieve the following goals and objectives:

Overall Plan Goal:

- Increase Safe Bicycle Use

Overall Plan Objectives:

- Increase the daily number of bicycle trips in San Francisco;
- Develop improved methods for tracking bicycle usage; and
- Reduce the rate of bicycle collisions as bicycle usage increases.

The overall goal of the Bicycle Plan is to provide safe conditions for cyclists through provision of a network of bicycle facilities. This network is designed to connect bicyclists safely and conveniently with their destinations by providing the routes with the least geographic impediments balanced by the routes with the best opportunities for road sharing between bicyclists and other modes. Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles, and, thereby, safely accommodate increased bicycle use in the City. The actions proposed to meet the objective of increasing bicycle use in San Francisco and a determination of their impacts to the environment are included in Subsection V.A.2.

Developing improved methods for tracking bicycle usage would provide the Bicycle Program and other City agencies with the data needed to refine and improve the bicycle network as needs change. This action is not likely to result in significant transportation impacts. Data collection activities, which do not result in a serious or major disturbance to an environmental resource, are exempt from environmental review [CEQA Guidelines Section 15358 (b)].

With improved roadway conditions for cyclists as well as increased road safety education and enforcement, there may be fewer bicycle collisions even as bicycle usage increases. This objective would not by itself lead to a physical change in the environment. It may be achieved by the implementation of specific Bicycle Plan projects and programs discussed and analyzed in this Environmental Impact Report (EIR).

The overall goal and objectives of the Bicycle Plan would be achieved by meeting the more specific goals, objectives, and action items outlined in the Bicycle Plan. The analysis of potential transportation impacts that would result from the more specific goals, objectives, and action items is included in this Subsection of the report.

The following analysis of these goals and objectives reveals that, the policies, goals, objectives, and action items would not lead to direct impacts. Analysis of other proposed changes to the transportation network that may result from the implementation of these policies, goals, objectives, and action items, and their potential environmental impacts, are presented in either the project-level analysis for the 60 near-term improvements, Subsection V.A.3 of this report, or in the program-level analysis in Subsections V.A.4 and V.A.5 of this report.

BICYCLE ROUTE NETWORK GOALS, OBJECTIVES AND ACTION ITEMS

This Bicycle Route Network discussion in Chapter 1 of the Bicycle Plan defines the action items to fulfill the following goals and objectives:

Chapter 1 Goal:

- Refine and Expand the Existing Bicycle Route Network

Chapter 1 Objectives:

- Establish a comprehensive network of bikeways that are appropriately signed, marked, and/or traffic-calmed and that provide convenient and direct connections to all of San Francisco's neighborhoods - the facilities along the bicycle route network should include conventional treatments depending on the design of the bicycle improvements and conditions:
  - on-street signed bicycle routes,
  - shared roadway bicycle markings,
  - bicycle lanes, and
  - off-street bicycle and mixed-use paths; and,
  - traffic-calmed streets
- Utilize innovative designs, where appropriate, to improve bicycle usage and safety; and
- Ensure that the bicycle route network:
  - provides bicycle access to all commercial and residential areas;
  - provides bicycle access to all San Francisco Municipal Railway (Muni) metro, Bay Area Rapid Transit (BART), and Caltrain stations, ferry terminals, and other major transit hubs; and
  - is well signed, well striped, and well paved.

Network gaps have been identified by the public and staff at City agencies. The Bicycle Plan's goal is to fill these gaps and provide a comprehensive network of bikeways which offer convenient and direct connections between all of San Francisco's neighborhoods. Improvements would be implemented over time to address the identified gaps. The network is evaluated as a whole in this environmental review process considering the potential impacts from the Bicycle Plan to the complete transportation system and on all modes. The proposed improvements fall into three major categories, namely, near-term improvements, long-term improvements, and minor improvements. These improvements are discussed in detail in Subsections V.A.3, V.A.4, and V.A.5 of this document. The action items in this Bicycle Route Network Goals, Objectives and Action Items discussion, including those related to near-term, long-term, and minor improvements, as well as informational and maintenance projects, have been recommended to complete the bicycle network in San Francisco. The potential for any element or improvement resulting from the Bicycle Plan Project to cause a significant environmental impact is identified and discussed below as well as in the other sections of this report.

Action 1.1
Implement improvements to streets and paths identified as proposed near-term bicycle improvement projects and implement minor improvements to other streets and paths on the existing bicycle route network, if feasible.

The act of adopting a policy to implement improvements to streets and paths proposed as near-term bicycle improvement projects, and to implement minor improvements to other streets and paths on the existing bicycle route network, would have no direct significant effect on the physical environment. Predictable indirect impacts from the implementation of this policy would include construction of the aforementioned improvements. The impacts of constructing these improvements are analyzed at a project level in Subsection V.A.3 of this EIR with respect to traffic, transit, parking, pedestrians, bicycles, and loading for the near-term improvements, and at a program level in Subsection V.A.4 of this EIR with respect to traffic, transit, parking, pedestrians, bicycles, and loading for the minor improvements.

Subsection V.A.3 identifies project-level impacts including both potentially-significant impacts, and significant and unavoidable impacts, including a potential reduction of traffic levels of service, potential slowing of transit movement in the City, and potential reduction of truck loading spaces. Of the remaining elements reviewed in Subsection V.A.3 project-level review, all impacts were identified as being less-than-significant or as having no potential to impact the physical environment. Subsection V.A.4 recognizes no significant program-level impacts for either the individual minor improvements, or for those minor improvements in a cumulative

context. Although no direct environmental impacts would result from adoption of this policy, some of the indirect impacts noted above would be potentially significant and unavoidable.

Significant Impact TR-A1.1

Predictable indirect impacts from approval of a policy to implement improvements to streets and paths proposed as near-term bicycle improvement projects, and to implement minor improvements to other streets and paths on the existing bicycle route network, or in the case of bicycle parking, to implement minor improvements within the street right-of-way, would include construction of the aforementioned improvements. The indirect results of Action 1.1 would, therefore, include all of those environmental impacts identified under the sections of the transportation study for the Bicycle Plan related to the project-level impacts of the near-term improvements with respect to traffic, transit, parking, pedestrians, bicycles, and loading and the program-level impacts resulting from implementation of minor improvements with respect to traffic, transit, parking, pedestrians, bicycles, and loading. The results of this analysis are summarized in Subsections V.A.3 and V.A.4 of this report. No significant impacts were identified from the minor improvements in V.A.4. The mitigation measures identified in Subsection V.A.3 would lessen some of the impacts that may result from implementation of the near-term improvements to a less-than-significant level. However, there would be some environmental impacts from the near-term improvements that would remain significant and unavoidable as described in Subsection V.A.3 of this report.

Action 1.2
Complete the required design and engineering for improvements to streets and paths identified as proposed long-term bicycle improvement projects and implement these improvements, if feasible.

Long-term improvements are either major improvements to segments of the existing bicycle route network or are potential future additions to the streets and pathways that comprise the bicycle route network. Completion of the design and engineering for the proposed long-term improvements would have no direct impact on the physical environment. Similarly, the act of adopting the policy allowing for the implementation of these improvements is a purely administrative activity, and would have no direct impact on the physical environment. The potential subsequent implementation of bicycle facilities, such as installation of colored paving, installation of bicycle lanes, installation of sharrows, and related design changes, have been analyzed in Subsection V.A.5 of this document with respect to traffic, transit, parking, pedestrians, bicycles, and loading. Subsection V.A.5 recognizes four potentially-significant and

unavoidable impacts that could result from long-term improvements. These potential impacts were identified at the program level and include the following:

- Potential reduction in roadway capacity and increased traffic delays; reduction in the number of travel lanes could subject vehicles, including transit using the affected roadways, to increased congestion and delays; increased delays could result in drivers diverting to other, potentially less convenient, routes to access their destinations.
- Potential to cause the level of service at an intersection's worst approach, to deteriorate from LOS D or better to LOS E or F with Caltrans signal warrants met; and/or potential to have significant adverse impacts at intersections that operate at LOS E or F under existing conditions.[2]
- Potential to cause transit to experience increased travel time on streets where these improvements reduce capacity of roadways and result in significant increases in delay.
- Potential to result in elimination of curb space currently dedicated to yellow commercial vehicle freight loading zones or active passenger loading/unloading zones.

Significant Impact TR-A1.2

Predictable indirect impacts from approval of a policy to implement improvements to streets and paths proposed as long-term improvements on the existing bicycle route network as well as additions to the network would include construction of the aforementioned improvements. The indirect results of Action 1.2 would, therefore, include all of those environmental impacts identified under the sections of the transportation impact study for the Bicycle Plan related to the program-level impacts of the long-term improvements. The results of this analysis are summarized in Subsection V.A.5 of this report and include potentially significant and significant and unavoidable impacts. As has been previously stated, the specific designs for the long-term improvements are unknown at this time. The mitigation measures identified in Subsection V.A.5 would lessen some of the impacts that may result from implementation of the long-term improvements. However, there would be some environmental impacts that would remain significant and unavoidable.

[2] California Manual on Uniform Traffic Control Devices, for Streets and Highways, Part 4: Highway Traffic Signals. Sept 26, 2006. http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/CAMUTCD-Part4.pdf

Action 1.3
Maintain a San Francisco Municipal Transportation Agency (SFMTA) Geographic Information System (GIS) database of the bicycle route network, and update the database whenever route changes occur.

The maintenance, and updating, of a SFMTA Geographic Information System (GIS) database of the bicycle network would result only in the sharing of information. There would be no significant transportation impacts on the physical environment from this action.

Action 1.4
Work with other City agencies to ensure that San Francisco continues to implement the Transit First Policy.

Collaboration between the SFMTA and other agencies, to ensure that San Francisco continues to implement the Transit-First Policy,[3] would result only in the sharing of information, and not a physical change subject to CEQA analysis. This collaboration, however, could lead to the construction of improvements or implementation of other changes to meet Transit-First Policy goals. Physical improvements known at this time are analyzed in Subsections V.A.3, V.A.4, and V.A.5 of this document, with respect to potential impacts on traffic, transit, pedestrians, bicycles, and loading. As analyzed in Subsections V.A.3, V.A.4, and V.A.5, these improvements have the potential to create significant impacts to the physical environment. Implementation of the mitigation measures identified in the transportation study would reduce some of these impacts to less-than-significant. However, there are some significant impacts for which no feasible mitigation measures have been identified. These would remain significant and unavoidable. Future projects that may result from this action are not yet known, and would be subject to separate technical review, analysis, and mitigation under CEQA.

Significant Impact TR-A1.4

Predictable indirect impacts from the collaboration between the SFMTA and other agencies to ensure that San Francisco continues to implement the Transit-First Policy could include the construction of improvements or implementation of other changes to meet Transit-First Policy goals. The indirect impacts of Action 1.4 would, therefore, include potential impacts identified under environmental review for all sections of the Bicycle Plan such as those discussed in the analysis of the potential impacts of the near-term improvements, long-term improvements, and

[3] The City's Transit-First Policy states, "The primary objective of the transportation system must be the safe and efficient movement of people and goods." In addition to promoting transit as an attractive alternative to travel by private vehicle, travel by bicycle and on foot must be attractive in the City. To this end, the City should encourage safe streets for bicycle riding, convenient access to transit, bicycle lanes, and secure bicycle parking. San Francisco City Charter Section 16.102.

minor improvements, as well as impacts that may result from future projects which would be similar to those discussed in this analysis. Physical improvements known at this time are analyzed in Subsections V.A.3, V.A.4, and V.A.5 of this document. As discussed in Subsection V.A.4, no significant impacts would result from implementation of the minor improvements. Mitigation measures have been identified in Subsections V.A.3 and V.A.5 that would address some of the significant impacts for near-term and long-term improvements. However, there are some impacts that would remain significant and unavoidable and those are also discussed in the above referenced Subsections.

Action 1.5
Conduct a before and after study on the impacts of allowing bicycles in exclusive bus/taxi lanes.

The study of impacts from allowing bicycles in exclusive bus/taxi lanes would be conducted in two stages to understand conditions before and after bicycles are allowed in these lanes. This study might require the placement of observers or mechanical equipment adjacent to locations at which these temporary mixed-mode lanes would be created. These observers would be involved in short-term data collection and recordation of traffic flow rates, safety levels for bicyclists, and other significant information. The presence of observers or monitoring equipment could be a temporary distraction for drivers, pedestrians, and cyclists in the areas under study. Such distraction could indirectly cause a slight worsening in local air quality, as motorists slow to observe the study activity. However, citizens using the public right-of-way regularly pass by a variety of similar distractions. They may slow slightly to observe the activity or navigate around it in a cautious manner but the increase in emissions released by driver-observer vehicle slowing is not appreciable to the casual observer. Furthermore, the study would be conducted for a limited duration so the increase in emissions from slowing drivers would also be temporary. The environmental impacts from conducting this study would, therefore, be less-than-significant.

It is possible that the observers or observational equipment could occupy one or more parking spaces in the area in which the study is being conducted. This minor loss of parking spaces would not result in a significant impact and would be temporary in nature. The total environmental impact of the use of parking spaces for stationing observers or observation equipment would be less than significant.

As an indirect result of this action, this study could lead to a proposal that bicyclists receive the permanent right to use bus/taxi lanes. Should this project eventually be proposed, it would be subjected to separate environmental review. Such a project is not included in the current project

scope, and is therefore not subject to project-specific environmental review at this time but rather program-level review of this policy. There would be no indirect impact from this policy to study multi-mode bicycle/bus/taxi shared lanes.

Action 1.6
Review multi-lane streets for excess capacity, and explore travel lane removals where excess capacity exists to accommodate bicycle lanes or other bicycle-friendly treatments.

A review of multi-lane streets for excess capacity and exploration of travel lane removals to allow for bicycle lanes or bicycle-friendly treatments on streets where excess capacity is found, might require the placement of observers or mechanical equipment adjacent to locations being studied. These observers would be involved in short-term information gathering on traffic flow rates and other relevant information. The presence of observers or monitoring equipment could be a temporary distraction for drivers, pedestrians, and cyclists in the areas under study. Such distraction could indirectly cause a slight worsening in local air quality, as motorists slow to observe the study activity and therefore generate a slight increase in vehicle emissions in the area in which they have slowed. However, citizens using public right-of-way encounter a variety of distractions on a regular basis, and often slow slightly to observe the activity or navigate around it in a cautious manner. The resulting increase in emissions is minimal and generally unnoticeable to the casual observer, and the study would be conducted on a temporary basis, so any potential increase in emissions from slowing drivers would be temporary. Therefore, this Action would have a less-than-significant impact on local air quality.

Placement of observation equipment or observers also could occupy some parking spaces, temporarily reducing parking in the area around the studied site. The environmental impact of stationing observation equipment or crews in a limited number of parking spaces would be less than significant.

The completion of this review and analysis could lead to a proposal to create additional bicycle lanes on additional City streets. Any new projects proposed would require separate environmental review, after the projects were defined and streets and specific improvements were developed. There would be no significant indirect environmental impact from the current policy to study multi-lane streets for opportunities to create bicycle lanes and other bicycle facilities.

Action 1.7
Work with the California Department of Transportation (Caltrans) to analyze and add bicycle facilities where appropriate on current State highways within San Francisco.

The act of cooperation between the San Francisco Municipal Transportation Agency (SFMTA) and Caltrans, to analyze and add bicycle facilities on existing State highways within San Francisco would not directly effect the physical environment. This cooperative arrangement would involve a sharing of information. Any proposed transportation improvements for State highways selected by SFMTA and Caltrans would require environmental review. SFMTA and Caltrans may agree to implement treatments already studied at the program level, as minor improvements, and discussed in Subsection V.A.4. No significant impacts would result from the implementation of these treatments.

There is only one near-term improvement proposed for a State highway in San Francisco, Project 8-1, 19th Avenue mixed-use path Buckingham Way to Holloway Avenue, Option 1. Option 1 would occur on the right-of-way on 19th Avenue, which is also California State Highway 1. The extent of project impacts has been analyzed and is presented in Subsection V.A.3. No significant impacts would result from this project. In addition, minor improvements may be implemented on Sloat Boulevard between Skyline Boulevard and 19th Avenue (State Highway 35) which would require SFMTA coordination with Caltrans. The extent of project impacts resulting from minor improvements has been analyzed and is presented in Subsection V.A.4. No significant impacts would result from this project.

Subsection V.A.5, the analysis of long-term improvements, has not identified any potential improvements on State highways. However, any projects not analyzed in Subsections V.A.3, V.A.4, and V.A.5 of this document would be studied through separate environmental analysis.

Therefore, the policy to continue the cooperative arrangement with Caltrans would have no definable direct impact on the physical environment. There would be no significant impact as a result of Action 1.7.

It should be noted that SFMTA also consults with Caltrans for improvements to the bicycle route network constructed in proximity to Caltrans facilities, but which are not on State highways in San Francisco. This coordination would not result in any direct environmental impacts. Any such known improvements are discussed in Subsections V.A.3 and V.A.5 of this report and considered as part of Actions 1.1 and 1.2, but are not within the actions anticipated as part of this action item.

Action 1.8
Work with the responsible San Francisco agencies to develop revisions to San Francisco's level of service (LOS) standards and methodologies such that they better respond to the multimodal nature of San Francisco's transportation system, specifically addressing bicycles.

Collaboration between SFMTA and responsible San Francisco agencies to develop revisions to level of service (LOS) policies and methodologies would not, in itself, create change in the physical environment. Therefore, it would not constitute an environmental impact under CEQA. However, the specific changes to these policies and methodologies have not yet been defined and cannot be analyzed in this document. Therefore, this collaboration and proposal to revise LOS policies and methodologies would have no direct or indirect impact on the physical environment.

Action 1.9
Define "bicycle boulevards" and develop criteria for identifying streets that could be designated as bicycle boulevards.

The definition of "bicycle boulevards," and criteria for designating streets as bicycle boulevards, would require information gathering through research and the sharing of information between departments in the City of San Francisco and other jurisdictions that contain bicycle boulevards. Gathering of information and drafting of bicycle boulevard street designation definitions would have no direct impact on the physical environment.

The definition of "bicycle boulevards" and designation criteria would ultimately provide potentially long-lasting guidance on, and influence over, circulation patterns on San Francisco streets. This definition would affect the use of those streets that would be defined as "bicycle boulevards," or could be so designated under the definition formulated under this policy. Therefore, this policy could indirectly impact the physical environment, with potential impacts that could arise from temporary activities such as bicycle lane striping, the elimination of parking spaces, or lane reconfiguration to allow right-of-way space for bicyclists. Streets not designated, or meeting the criteria for designation, also could be physically affected if vehicle traffic moves to those streets to avoid sharing the designated bicycle boulevard streets with cyclists. The ultimate designation of specific bicycle boulevards would require environmental analysis once the City has arrived at a definition, so that affected streets could be identified and studied for project-level impacts. In the current absence of such a definition, there is no way to ascertain the level of indirect impacts that would result from the policy to adopt this new definition nor are these impacts yet authorized (pending separate environmental analysis) by adoption of the policy here considered. That which is currently contemplated is only the

adoption of this policy, and this action would have no direct or indirect impact on the physical environment.

Action 1.10
Review international best practices and implement innovative design treatments along the bicycle route network with an appropriate level of analysis and study.

A review and analysis of international best practices for ideas on design treatments along the bicycle network and of the innovative design treatments themselves, would involve research and analysis, and would have no impact on the physical environment. The implementation of innovative design treatments such as the installation of colored paving, installation of directional signage, installation of sharrows, and related design changes, have been analyzed in Subsection V.A.4 of this document, and have been found to have no potentially-significant environmental impacts. Separate environmental analysis would be required for any design treatments not yet proposed and analyzed in this environmental document. Adoption of this policy, therefore, would have no significant direct or indirect impact on the physical environment.

Action 1.11
Prioritize installation of shared roadway bicycle markings where safety could be improved.

Action 1.11 would result in assigning priority to certain streets over others for the installation of shared roadway markings where bicycle travel-related safety could be improved. The act of prioritizing certain street on the bicycle route network over others for the implementation of sharrows would have no direct effect on the physical environment. However, the indirect effect would be the installation of the sharrows. Analysis of potential environmental impacts for the installation of sharrows is provided in Subsection V.A.4. Sharrows have been determined not to result in significant environmental effects. Thus, the prioritization of shared roadway bicycle markings, to improve safety, would have no significant effect on the physical environment.

Action 1.12
Work with the Department of Public Works (DPW) to develop and enforce a set of standards that must be strictly adhered to by contractors for street excavation restoration.

The coordination of work between SFMTA and the Department of Public Works (DPW), to develop and enforce a set of standards for street excavation restoration by contractors, would have no impacts on the physical environment. This policy could encourage and allow DPW to secure a higher level of workmanship by street excavation and restoration contractors. The

physical impact of this improved workmanship would be positive, and would result in longer time periods between street repairs, and therefore, fewer traffic disruptions and reduced emissions arising from cars backed up in traffic behind street repair crews. This policy would have no direct or indirect impact on the physical environment.

Action 1.13
Work with the responsible San Francisco agencies to create a prioritized citywide bicycle and mixed-use pathway inventory that includes: surface condition; signage and lighting status; required maintenance or improvements needed; and the agency responsible for each pathway.

Work between the SFMTA and other San Francisco agencies would, be an activity involving the cooperative exchange and management of information. This collaboration would not have an impact on the physical environment. The result of this collaboration would be the creation of a prioritized bicycle and mixed-use pathway inventory, including surface and other amenity status, required improvements and maintenance, and the associated responsible agency. Creation of such a list also would be an essentially administrative task and would have no impact on the physical environment. The ultimate indirect result of adopting this policy would be two-fold, namely:

Maintenance and improvement levels on the bicycle and mixed-use pathway system are an aspect of the physical environment, and poor pathway systems could erode pathway use and undermine the Bicycle Plan's goal of promoting bicycle use in the City. Poor pathway maintenance levels may result in some cyclists or pedestrians diverting their travel from designated pathways to nearby streets. However, this would be an unusual circumstance. A commitment to maintain the pathway system would have a less-than-significant impact on the environment, as it would ensure that the pathway system is kept relatively unchanged, and in the optimal usable condition.

The indirect result of the proposed policy to maintain the bicycle pathways would be the execution of related maintenance tasks and construction of improvements. These activities could temporarily block and slow pedestrians or bicycle travel depending on the pathway in question. As the maintenance and improvements work would be temporary, likely to last no more than a few days to a week, the impact of the total potential increase in vehicle emissions arising from maintenance or repair activities would be less-than-significant. These actions would have no significant impact under the current project.

Action 1.14
Work with the DPW and the Recreation and Parks Department to maintain a regular sweeping schedule of bicycle routes on City-accepted streets and City-maintained off-street paths that are not currently cleaned on a regular schedule – in addition to sweeping bikeways whenever there is an accumulation of debris such as gravel, glass, and sand.

Collaboration between the SFMTA, DPW, and Recreation and Park Department to maintain a regular sweeping schedule of bicycle routes would not affect the physical environment as the collaborative process would consist solely of information sharing and coordination of ideas. The indirect result of this collaboration would be the execution of scheduled sweeping, possibly with increased frequency. Sweeping activities can affect the physical environment in two ways: They can make paths safer for use and travel, and they can create temporary obstruction to pathway users and individuals temporarily sharing the path of travel with the sweeping equipment. The sweeping equipment may slow movement of vehicles, transit, bicycles and pedestrians on paths being swept, and on roads that the sweeping equipment uses to reach the sweeping location. This potential impact would occur on a temporary basis and only at the time of sweeping, a periodic activity. Therefore, the indirect environmental impact of this policy would be less than significant.

Action 1.15
Work with the DPW to prioritize streets on the bicycle route network within the DPW's street resurfacing program.

The SFMTA's decision to work collaboratively with DPW to prioritize streets on the bicycle route network for DPW's street resurfacing program would have no impact on the environment. This action would result in some streets being repaved before other streets. The level of prioritization would only change the order in which streets would be repaved. It would not result in an increased in street repaving. Therefore, no environmental impacts would result from the imposition of this prioritization scheme.

Action 1.16
Work with the DPW to inspect streets on the bicycle route network on a yearly basis.

No direct physical impact would result from the SFMTA's work with DPW to inspect streets on the bicycle routes on an annual basis. An inspection process already occurs, and the policy currently proposed would potentially add more observers or a new focus to the process, but would involve no new or additional traffic slowing or other impact with potential environmental implications. The inspection of streets could indirectly lead to additional

maintenance, but it is likely that this maintenance would be called for by DPW under normal working procedures. Therefore, there would be no direct or indirect impacts from these inspections.

Action 1.17
Create an inventory of locations along the bicycle route network that intersect or run parallel to railroad tracks, and identify appropriate measures to mitigate the impacts of the track crossings to bicyclists.

The creation of an inventory of bicycle route locations that intersect or run parallel to railroad tracks would be an information gathering exercise. The compilation of information would have no physical impact on the environment. The subsequent identification of measures to mitigate impacts of track crossings on bicyclists could lead to plans for new improvements, but any new improvement projects, arising as a result of the compilation of this inventory, would require separate environmental review and clearance. This policy, therefore, would have no direct or indirect significant impact on the environment.

Additional Action
The Bicycle Program anticipates utilizing bicycle detectors to facilitate bicycle traffic through signalized intersections that are traffic-actuated where existing detector devices cannot adequately detect bicycles. Bicycle detectors are devices used at traffic-actuated signalized intersections to ensure that signal phase actuation can be triggered by bicycles in addition to motor vehicles.

In general, bicycle detectors allow bicyclists to actuate a traffic signal when they arrive at an intersection. These devices provide a function similar to pedestrian crosswalk systems where a pedestrian manually triggers the detector system by pressing a button. These devices would prevent bicyclists from waiting at a traffic-actuated traffic signal for extended periods of time when no other vehicles are present in order to cross the intersection legally. The installation of such devices may involve minor excavation in the roadway. Once implemented, these devices would limit unnecessary waiting by cyclists at intersections but would have no other environmental effects. Therefore, the use of bicycle detectors would not result in direct or indirect significant environmental impacts.

BICYCLE PARKING GOALS, OBJECTIVES AND ACTION ITEMS

This Bicycle Parking discussion relates to Chapter 2 of the Bicycle Plan, and defines action items that would fulfill the following goals and objectives:

Chapter 2 Goal:

- Ensure Plentiful, High-Quality Bicycle Parking

Chapter 2 Objectives:

- Provide secure short-term and long-term bicycle parking, including support for bicycle stations and attended bicycle parking facilities at major events and destinations; and
- Provide current and relevant information to bicyclists regarding bicycle parking opportunities through a variety of formats.

Despite recent progress toward providing ample secure bicycle parking throughout the City, many office buildings, commercial districts, public transit stations, and tourist attractions still lack adequate bicycle parking. The unavailability of bicycle parking, with protections against theft, vandalism, and the weather, discourages people from cycling. The Bicycle Program therefore desires to implement bicycle parking within the public right-of-way, where appropriate, whenever a need is identified. The action items in this Bicycle Parking Goals, Objectives and Action Items discussion have been recommended to ensure a protected and ample supply of bicycle parking facilities throughout the City. These action items would have no significant impact on the environment.

Action 2.1
Work with the Planning Department to consolidate Sections 155.1-155.5 of the *Planning Code* to provide clearer regulations, guidance, and exemptions related to bicycle parking.

No direct impacts would result from collaboration between the SFMTA and the Planning Department to consolidate Sections 155.1-155.5 of the *Planning Code,* for the purpose of providing clearer regulation, guidance, and exemptions related to bicycle parking. This collaboration would involve meetings, sharing of information and recommendations, and proposed amendments to the text of the *Planning Code* in accord with the conclusions reached through this collaborative process. None of these actions would have a direct physical component. However, while the goal is to provide greater clarity and guidance for the application of existing bicycle parking requirements, it is possible that more bicycle parking would be constructed as a result of Action 2.1. Therefore, an indirect result of this collaboration could be the creation of additional bicycle parking in the City. The provision of more bicycle parking could displace vehicular parking or other uses including residential floor area. The potential level of impact would be minor. An increase in bicycle parking and any coincident impacts would not constitute a significant impact under CEQA.

Action 2.2
Work with the Planning Department to modify the *Planning Code's* requirements for bicycle parking so that they are less dependent on automobile parking provisions.

Action 2.2 would result in collaboration between SFMTA and the Planning Department to modify *Planning Code* requirements for bicycle parking so that they are less dependent on automobile parking provisions. The collaborative effort itself would have no impact on the physical environment. One indirect impact of this collaboration could be the implementation of policies allowing for a greater provision of bicycle parking spaces to residential units. This would have no detrimental effect on the physical environment. It may result in a greater rate of cycling among San Francisco residents. To the extent that these increased bicycle trips replace vehicle trips, this may lead to a reduction in vehicle emissions. A secondary impact of this collaboration could be the allowance of more bicycle parking. This could influence vehicle parking requirements and result in a decrease in the space for vehicle parking required for some development projects.

The exact reduction in automobile parking spaces resulting from the implementation of Action 2.2 is unknown. Parking deficits are considered to be social effects, rather than impacts on the physical environment, as defined by CEQA. Under CEQA, a project's social effects need not be treated as significant impacts on the environment. Environmental documents should address any secondary impacts that could be triggered by a social impact. (CEQA Guidelines Section 15131(a)). The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternatives parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First Policy." The City's Transit First Policy, established in the City's Charter Section 16.102, provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation." Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles, and, thereby, safely accommodate increased bicycle use in the City. Therefore, Action 2.2 is not likely to result in significant transportation impacts. Therefore,

Action 2.2 would have no potential significant direct or indirect impact on the physical environment under CEQA.

Action 2.3
Work with the Planning Department to amend the *Planning Code* to increase required bicycle parking for new residential development and base this requirement on a proportion of dwelling units.

The work of the SFMTA and Planning Department to amend the *Planning Code* to increase the required bicycle parking for new residential developments would have impacts similar to those discussed under Action 2.2. As noted above, the act of collaboration would have no impact on the environment. The indirect impact of creating more bicycle parking, whatever the basis for the proposed analysis used to define the number of spaces required, could lead to a concomitant reduction in the provision of vehicle parking spaces. As discussed in Action 2.2, above, parking deficits are considered to be social effects and not physical impacts on the environment. Therefore, the potential loss of vehicle parking, to make way for more bicycle parking would not be considered an impact under CEQA. By indirectly causing a reduction in the parking provided in new residential projects, this policy also could indirectly lead to a reduction in total vehicle travel in the City, and thus a reduction in vehicle emissions. There would be no significant environmental impact as a result of Action 2.2.

Action 2.4
Work with the responsible San Francisco agencies and entities to ensure that all garage bicycle parking is secure, well monitored, and well advertised at garage entrances and other appropriate locations.

A policy of multi-agency cooperation to ensure that garage bicycle parking is secure, well monitored, and well advertised at garage entrances and other appropriate locations would not have a direct impact on the environment, in itself. If these provisions are enforced, they could result in an indirect effect of encouraging more bicycling due to the availability of secure bicycle parking. Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles, and, thereby, safely accommodate increased bicycle use in the City Therefore, an increase in bicycle use resulting from the enforcement of bicycle parking provisions as specified in the *Planning Code* is not likely to result in significant transportation impacts. Thus, there would be no significant environmental impacts with implementation of Action 2.4.

Action 2.5
Work with the Planning Department to increase monitoring and enforcement of bicycle parking provisions in the *Planning Code*, especially when issuing building permits.

An increase in monitoring and enforcement of bicycle parking provisions in the *Planning Code*, particularly when the City issues building permits, would lead to impacts similar to those described for Action 2.1, which contemplates the clarification of bicycle parking provisions. Any increased attention to the provision of bicycle parking may indirectly exert pressure on the allocation of square footage for other uses including vehicle parking. However, both vehicle parking and residential floor area would have to remain consistent with *Planning Code* requirements. The impact of reducing vehicle parking and residential floor area for other uses to allow for more bicycle parking would be minimal and less than significant. Therefore, the policy to increase monitoring and enforcement of bicycle parking provisions would not constitute a significant impact under CEQA.

Action 2.6
Hold meetings as needed between SFMTA and Planning Department staff to update citywide bicycle parking compliance status and review bicycle parking information posted on the SFMTA website.

The conduct of meetings between SFMTA and Planning Department staff, to update citywide bicycle parking compliance status and review bicycle parking information on the SFMTA's website would be an administrative activity without the potential to impact the physical environment. The focus of this activity is to ensure that both agencies have the most current information to effectively address bicycle parking issues in the City. Indirect impacts that may result from this action, such as the anticipated installation of additional bicycle parking facilities, are analyzed in Subsection V.A.4, and also have been found to have no significant impacts on the physical environment.

Action 2.7
Conduct the SFMTA's bicycle parking training for new Planning Department personnel, as needed.

Provision of bicycle parking training for new Planning Department personnel, by SFMTA, would involve the exchange of information. This action would have no direct impact on the physical environment. Any indirect impact of this action would arise from the new staff member's direct implementation of bicycle parking provisions of the *Planning Code* as discussed in Actions 2.1 to 2.5 above. There would be no significant environmental impact related to Action 2.7.

Action 2.8
Ensure that all City leases are negotiated to include the required level of bicycle parking by cooperative efforts of the City Real Estate Department and SFMTA.

There would be no direct environmental impact from the act of adopting a policy that all City leases (leases of buildings by the City) include a requirement to provide the required level of bicycle parking. Indirect impacts would include the potential encouragement of bicycle riding in the City, to and from these City buildings. This could correspond to a reduction in vehicle use, which may result in reduced vehicle emissions. This policy could also indirectly cause the subject buildings to offer nominally fewer vehicle parking spaces because they may require floor area in which to install bicycle parking. Should this be the case, vehicle parking stalls might be eliminated to provide more floor area in which more bicycle parking could be installed to meet this need. Some drivers could be displaced by any removal of vehicle parking stalls to allow for the addition of bicycle parking. The displacement of cars from parking spaces could lead to more circling and greater vehicle emissions that arise from cars circling and seeking alternative parking spaces. Such greater emissions levels would qualify as an impact to the physical environment. Notwithstanding this concern, as discussed in Action 2.2, above, San Francisco transportation planners' experience indicates that the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g. transit, bicycles, taxis or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Thus, the impacts of reducing the number of parking spaces would likely not lead directly to more circling behavior on a scale that would generate new vehicle emissions. Action 2.8 would not generate either a significant direct or indirect impact on the physical environment.

A further indirect impact could be that Action 2.8 would encourage greater bicycle use in the City. The Bicycle Plan proposes projects and treatments designed to reduce conflicts between bicyclists and other vehicles, and thereby safely accommodate increased bicycle use in the City. Therefore, an increase in bicycle use resulting from Action 2.8 would have no significant impact on the environment.

Action 2.9

Pursue a citywide policy to provide secure bicycle parking at all City buildings in areas to be specified by the individual agencies, subject to safety regulations and available space, by cooperative efforts of the City Real Estate Department, the Planning Department, and the SFMTA.

Requirements for bicycle parking for City-owned and leased buildings are specified in Section 155.1 and 155.2 of the *Planning Code*. The pursuit of a citywide policy to provide secure bicycle parking in City buildings subject to safety regulations and available space would have a similar effect as the multi-agency efforts to ensure secure garage bicycle parking discussed in Action 2.4 above. While the pursuit of the policy would have no impact on the physical environment, the policy could lead to the increased use of bicycles as cyclists find that their bicycles can be stored safely and easily in City buildings. The Bicycle Plan proposes projects and treatments designed to reduce conflicts between bicyclists and other vehicles, and thereby safely accommodate increased bicycle use in the City. Therefore, an increase in bicycle use resulting from Action 2.9 would have no significant impact on the environment.

Action 2.10

Work with the Planning Department to amend the *Planning Code* to lower the number of automobile parking spaces required in buildings where Class I bicycle parking is provided.

Collaboration between SFMTA and the Planning Department, to amend the *Planning Code* to lower the number of automobile parking space required in buildings where Class I bicycle parking is provided, would not have any impacts on the physical environment. The act of collaboration would have no significant impact on the physical environment. This collaboration would potentially indirectly affect the availability of vehicle parking spaces in buildings because availability of Class I bicycle parking would reduce requirements for vehicle parking spaces in the those buildings that contain Class I bicycle parking.

The exact reduction in automobile parking spaces resulting from the implementation of Action 2.10 is unknown. However, parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact. (CEQA Guidelines Section 15131(a)). The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the

experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles and thereby safely accommodate increased bicycle use in the City. Therefore, an increase in bicycle use that may result from the provision of bicycle parking in City-owned and City-leased buildings would not likely result in significant transportation impacts. Therefore, there would be no significant direct or indirect impact on the physical environment, as a result of Action 2.10.

Action 2.11
Work with the Planning Department to amend the *Planning Code* to require bicycle parking in each individual building of large, multiple-building developments.

An amendment of the *Planning Code* that would require bicycle parking in each individual building of large multiple-building developments would have no direct impact on the physical environment as the amendment process would be a procedural activity involving the exchange of information and collaboration. The indirect impact of the policy to create more localized bicycle parking locations, rather than allowing all bicycle parking to be centralized in a single building in a multiple-building development, would likely be an increased rate of bicycle riding among residents of the multiple-building complex. All residents would presumably be able to store their bicycles in their own buildings, where they would be more conveniently accessible and therefore easier to use for local trips. The potential increase in bicycle use among residents of multiple-building complexes could be accompanied by a matching decrease in resident use of cars for short trips.

Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles and thereby safely accommodate increased bicycle use in the City. Therefore, an increase in bicycle use that may result from the provision of bicycle parking in all buildings of multiple-building development would not likely result in significant transportation

impacts. Therefore, there would be no significant direct or indirect impact on the physical environment, as a result of Action 2.11.

Action 2.12
Work with the Planning Department to amend the *Planning Code* to require building owners to allow tenants to bring their bicycles into buildings unless Class I bicycle parking is provided.

Work between the SFMTA and Planning Department to amend the *Planning Code* to require building owners to allow tenants to bring their bicycles into buildings unless Class I bicycle parking is provided would have no significant impact on the physical environment. The adoption of a provision for tenants to carry bicycles into the safety of their rental units would have no significant indirect impact on the physical environment aside from potentially encouraging more bicycling. An indirect result may be a decrease in vehicle trips which may lead to reduced vehicle emissions.

Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles and thereby safely accommodate increased bicycle use in the City. Therefore, an increase in bicycle use that may result from allowing tenants to bring their bicycles into buildings unless Class I bicycle parking is provided would not likely result in significant transportation impacts. Therefore, there would be no significant direct or indirect impact on the physical environment, as a result of Action 2.12.

Action 2.13
Work with the responsible San Francisco agencies to prepare additional guidelines for the placement and design of bicycle parking within City rights-of-way, including curbside on-street bicycle parking where feasible, and "sleeve" ring racks on parking meters.

Collaboration by SFMTA with responsible San Francisco agencies to prepare guidelines for the design and placement of bicycle parking in City rights-of-way would have no direct impact on the environment as the preparation of guidelines is an administrative function involving only the exchange of ideas, writing and analytical functions. The indirect effect of the preparation of these guidelines would be the possible implementation of new bicycle parking policies and ultimately the possible installation of new bicycle parking racks along City sidewalks and elsewhere in the City right-of-way. The installation of bicycle racks is analyzed at the program-level in Subsection V.A.4, which determines that there would be no significant impact as a result of the placement of these bicycle racks. Therefore, no potential direct or indirect impact on the physical environment would result from Action 2.13.

Action 2.14
Develop and maintain an SFMTA bicycle parking outreach campaign in various formats to provide relevant bicycle information such as garage locations with bicycle parking and bicycle locker availability.

The maintenance of an SFMTA bicycle parking outreach campaign to provide information on bicycle parking and locker locations would be an administrative task without the potential to impact the physical environment. The indirect result of the maintenance of this information would likely include increased bicycle ridership as this information would allow riders to move around the City knowing that they would not have trouble locating a bicycle parking spot at or near their destination. This impact could indirectly lead to reduced reliance on auto transportation, as bicycle riding might be seen as a more viable alternative, thanks to the availability of bicycle parking information. With the potential reduction in auto use there may be a potential reduction in auto emissions, which would be a positive impact on the physical environment. Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles and thereby safely accommodate increased bicycle use in the City. Therefore, an increase in bicycle use that may result from increased awareness of bicycle parking opportunities would not likely result in significant transportation impacts. Therefore, there would be no significant direct or indirect impact on the physical environment as a result of Action 2.14.

Action 2.15
Work with the San Francisco Police Department (SFPD) to make bicycle theft investigation a higher priority and create a better system for returning recovered bicycles to their owners.

Collaboration between SFMTA and SFPD to prioritize bicycle theft investigations is an administrative and outreach function that would have no impact on the physical environment. The indirect result of this action would be a change in SFPD operating procedures to focus additional attention on bicycle theft. This refocusing of police resources is not anticipated to require an addition of officers beyond SFPD's current approved capacity, or to require the addition of more police patrol (pollutant-emitting) vehicles on City streets. Should the SFPD increased priority of bicycle crime investigation, this indirect result of Action 2.15 would have no significant environmental impact.

TRANSIT AND BRIDGE ACCESS GOALS, OBJECTIVES AND ACTION ITEMS

This Transit and Bridge Access section refers to Chapter 3 of the Bicycle Plan, and defines action items that would accomplish the following goals and objectives:

Chapter 3 Goal:

- Expand Bicycle Access to Transit and Bridges

Chapter 3 Objectives:

- Provide bicycle access to transit vehicles whenever feasible;
- Provide convenient bicycle access and bicycle parking at transit stations; and
- Provide bicycle access to all local bridges wherever feasible.

The integration of bicycle and transit use at the local and regional level enhances the role of each in providing convenient transportation and is essential in maximizing the bicycle's transportation utility for medium-range and long-range trips. Access to transit vehicles through the provision of bicycle parking at transit stations, for example, provides an inter-modal link that improves the efficiency and range to both transit and bicycling that could ensure maximum connectivity between destinations. The action items in this Transit and Bridge Access Goals, Objectives and Action Items discussion would support the integration of bicycle and transit use, and the Bicycle Plan bridge access goals. As discussed below, these action items would have no significant impact on the environment.

Action 3.1
Create an SFMTA policy that explicitly permits folded bicycles on all SFMTA transit vehicles.

The creation of an SFMTA policy to allow folded bicycles on all SFMTA transit vehicles would have no environmental impact as the creation of policies is an administrative act involving only the exchange of information, writing, and analysis. The indirect results of implementing such a policy would be the allowance of folded bicycles[4] on SFMTA transit vehicles. Currently, Muni does not have a limitation on the baggage carried on board by passengers either as backpacks, suitcases, baby strollers or packages. However, folded bicycles are explicitly excluded as acceptable carry-ons. While allowing folded bicycles within Muni transit vehicles may impact their carrying capacity for passengers, this impact would not differ from the impacts that now occur as a result of current policies regarding other allowable baggage on board. Implementation of Action 3.1 could potentially make combined bicycle-transit use more convenient. The added convenience of combined bicycle-transit travel may cause some people

[4] The dimensions of folded bicycles differ by manufacturer and bicycle style. Dimensions range from 22"x22"x10" at the smaller size to 36"x28"x12" at the larger size.

to discontinue driving which could result in a potential decrease in vehicle emissions. Thus, Action 3.1 would not have significant impacts on the environment.

Action 3.2
Develop a pilot program to provide bicycle access on SFMTA light rail vehicles for a trial period that would be monitored for potential future implementation.

Similar to Action 3.1, the development of a pilot program to provide bicycle access on SFMTA light rail vehicles for a trial period would have no environmental impact as the creation of policies is an administrative act involving only the exchange and analysis of information and the writing of documents. Indirect environmental impacts would include the temporary allowance of bicycles on SFMTA light rail vehicles (LRV). The added convenience of combined bicycle-LRV travel may cause some people to discontinue driving, which could result in a potential decrease in vehicle emissions. However, any indirect environmental impacts under this pilot program would last for the duration of the pilot program only. Permanent implementation of the program would require environmental review of the proposed project. Thus, Action 3.2 would not have significant impacts on the environment.

Action 3.3
Update the SFMTA's bicycle accessibility guidelines and widely distribute and publicize these guidelines.

The SFMTA's update, distribution, and publicizing of its bicycle accessibility guidelines would involve the analysis of current accessibility guidelines, setting of accessibility goals, and research on other potential bicycle accessibility measures, followed by the preparation and printing of documents. These activities would have minimal impacts on the physical environment. The update and publicizing of the bicycle accessibility guidelines would have the indirect impact of encouraging more bicycle riding within the City and may lead to increased use of both bicycle and transit modes on a single trip. Increased bicycle use may lead to a corresponding decrease in vehicle trips. Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles and thereby safely accommodate increased bicycle use in the City. Therefore, an increase in bicycle use that may result from increased awareness of bicycle accessibility guidelines would not likely result in significant transportation impacts. Therefore, there would be no significant direct or indirect impact on the physical environment as a result of Action 3.3.

Action 3.4
Create a SFMTA policy that allows bicyclists with disabled bicycles to bring them aboard SFMTA transit vehicles, interior space permitting and at the vehicle operator's discretion, when the SFMTA transit vehicle either does not have bicycle racks or when the racks are full.

The creation of an SFMTA policy to allow bicyclists to bring disabled bicycles aboard SFMTA vehicles, when space permits and at the transit vehicle operator's discretion, would have no significant environmental impact insofar as the creation of a policy involves the exchange of information. The indirect environmental impact of this policy would be the actual transportation of disabled bicycles on the interior of SFMTA transit vehicles rather than on outside racks or in equivalent "designated" locations. Since this new policy would allow disabled bicycles on board Muni vehicles only when interior space is available and the buses are not overly crowded as determined by the vehicle operator, there would be no impact on Muni capacity. Thus, the implementation of Action 3.4 would have a less-than-significant environmental impact.

Action 3.5
Install bicycle racks on all SFMTA-operated buses, and work with other transit operators with buses operating in San Francisco to install bicycle racks on their bus fleets.

The installation of bicycle racks on SFMTA-operated buses and efforts to work with other bus operators to install bicycle racks on their fleets would require (a) the use of hand tools and power tools to install nuts, bolts and other attachment devices, to hold the bicycle racks to the buses, and (b) outreach efforts to other bus providers, by the SFMTA. The outreach efforts would only involve communication so would have no impact on the physical environment. This action would not result in a significant impact on the environment.

Upon installation these new bicycle racks may encourage increased bicycle ridership which may result in a potential reduction in total automobile emissions in the City. Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles and thereby safely accommodate increased bicycle use in the City. Therefore, an increase in bicycle use that may result from additional bicycle racks on transit vehicles would not likely result in significant transportation impacts. Therefore, there would be no significant direct or indirect impact on the physical environment as a result of Action 3.5.

Action 3.6
Work with Bay Area Rapid Transit (BART) to analyze existing bicycle policies, identify expanded bicycle access times, and create a trial program for non-folding bicycle access in both directions on Transbay peak period trains.

Collaboration between SFMTA and Bay Area Rapid Transit (BART) would involve the exchange of information and would not have a direct impact on the physical environment. This collaboration would be for the purpose of analyzing existing bicycle policies, expanding times for bicycle access to BART, and creating a trial program for non-folding bicycle access on BART through the Transbay tube on peak period trains. Were the collaboration to accomplish the three goals outlined above, one would expect greater rates of bicycle movement through the BART system including at peak commute hours Indirect environmental effects of this collaboration may result in increased BART-bicycle trips which may lead to fewer Transbay vehicle trips.

Concerns with bicycles on-board peak hour trains include impacts on train capacity and conflicts with passengers in crowded stations, stairwells, and escalators. However, the impacts of a pilot study are temporary and as such, there would be no significant impacts to transportation. The consideration of potential impacts to the environment that may result from permanent adoption of increased bicycle access to BART would be the responsibility of BART, and would be addressed when policy or operational changes related to bicycles on BART are made. Therefore, there would be no significant direct or indirect impact on the physical environment as a result of Action 3.6

Action 3.7
Work with Caltrain to expand bicycle access on its trains and to its San Francisco stations by promoting bicycling to stations and by providing secure bicycle parking at station areas.

Collaboration between SFMTA and Caltrain would not have a direct impact on the physical environment as this collaboration would only involve the exchange of information. However, if the collaborative effort is successful, it may lead to the expansion of bicycle access to the San Francisco Caltrain stations and the potential increase in secure bicycle parking provided at station areas. Such changes could encourage bicyclists to complete more trips using Caltrain-bicycle transport in lieu of automobiles. This may lead to fewer vehicle trips from San Francisco to the Peninsula. Action 3.7 also could have the indirect effect of encouraging more bicycling due to the improved access to Caltrain stations and increased availability of bicycle parking at the stations. Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles, and, thereby, safely accommodate increased

bicycle use in the City. Therefore, Action 3.7 would not result in significant environmental impacts.

Action 3.8
Ensure that all San Francisco transit stations, including the new Transbay Terminal, provide barrier-free bicycle access and state-of-the-art bicycle parking facilities, and work with the California High-Speed Rail Authority to ensure bicycles are accommodated on its long-distance trains.

As previously discussed, access to transit for bicyclists provides an inter-modal link that improves the efficiency and range for both bicycling and transit. Bicycle parking at transit stations is an important aspect of this connectivity as is the ability of bicyclists to get to transit vehicles and bicycle parking facilities at the station. Barrier-free bicycle access with the inclusion of adequate and convenient stairways, elevators, ramps, and stair channels, are especially important in multi-level facilities.

Under Action 3.8, SFMTA would cooperate with responsible City agencies to ensure that all transit stations in San Francisco, including the new Transbay Terminal (Transbay Transit Center), would be bicycle-accessible and include secure bicycle parking facilities. In addition, SFMTA would work with the California High Speed Rail Authority to ensure bicycle access on its long distance trains that will serve the new Transbay Terminal (Transbay Transit Center) on Mission Street between Beale and 2nd Streets. This action represents a request for cooperation between City and non-City agencies and, as such, is not likely to result in a physical change to the environment. Implementation of Action 3.8 could result in an indirect effect of encouraging more bicycling and multi-mode trips in San Francisco due to improved access to transit stations and future high speed rail service. Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles, and, thereby, safely accommodate increased bicycle use in the City. Therefore, Action 3.8 would not result in significant environmental impacts.

Action 3.9
Work with the San Francisco Bay Area transit operators and the Metropolitan Transportation Commission (MTC) to develop, implement, maintain, expand, and enforce improved inter-modal bicycle access.

In recent years MTC has been working for improved transit connectivity within the nine county San Francisco Bay Area. The MTC Transit Connectivity Plan[5] studied many issues of transit

[5] Refer to MTC website for copy of this plan at http://www.mtc.ca.gov/planning/connectivity/index.htm

connectivity including 'last mile' connections for bicyclists. In addition, MTC sponsors the Safe Routes to Transit Program, authorized by Regional Measure 2 in 2004. The City of San Francisco has been directly involved in both these and other efforts to improve bicycle access within and to/from San Francisco. Under Action 3.9, the SFMTA would continue to work with MTC and other transit operators on on-going efforts to improve inter-modal access. This action represents the sharing of information and cooperation between City and non-City agencies in support of improved bicycle access in the Bay Area and, as such, is not likely to result in changes to the physical environment. The indirect result of this collaboration, if successful, would be the development, implementation, maintenance, expansion, and enforcement of improved inter-modal bicycle access. The indirect results of improving multi-modal bicycle access could be the replacement of some automotive trips with multi-modal bicycle-transit trips. Therefore, Action 3.9 would not result in significant environmental impacts.

Action 3.10
Promote bicycle parking stations at major transit hubs that provide secure, monitored bicycle parking, bicycle commuter information, and bicycle maintenance services.

The act of promoting bicycle parking stations would have no significant impact on the environment. The promotion of bicycle parking stations in major transit hubs would facilitate regional residents' use of bicycles as a mode of transportation. These parking stations would make efficient use of space within transit hubs and be more efficient than current bicycle lockers. It is unlikely that transit hubs would lose any amenities such as vehicle parking spaces or transit operation and circulation area. Therefore, the indirect impact of this policy would potentially be limited to an increase in bicycle use from an increased supply of secure bicycle parking and bicycle-related information and a possible reduction in personal vehicle use. Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles, and, thereby, safely accommodate increased bicycle use in the City. Therefore, there would be no significant environmental impacts as a result of Action 3.10.

Action 3.11
Work with Caltrans and the Golden Gate Bridge, Highway and Transportation District (GGBHT) to provide improved bicycle access to and upon all San Francisco bridges wherever feasible and appropriate.

SFMTA collaboration with Caltrans and the GGBHTD, in an effort to provide improved bicycle access to and upon San Francisco bridges would involve communications and the exchange of information between SFMTA and these other agencies. This communication and exchange of information would have no impact on the environment. The indirect impact of this exchange

could be the provision of improved bicycle access on some or all bridges to and within the City of San Francisco. Such improved access could support bicyclists in making trips to, from, and within the City, where such trips would involve crossing a bridge from which bicycles are currently precluded. This would potentially support increased ridership and use of bicycles as a means of transportation to, from, and throughout the City of San Francisco. As noted above, any reduction in vehicle trips would lead to some reduction in vehicle emissions. Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles, and, thereby, safely accommodate increased bicycle use in the City. The consideration of potential impacts to the environment that may be the result of subsequent actions by Caltrans or the GGBHTD would be their responsibility to address if policy or operational changes are recommended. Therefore, there would be no significant environmental impacts as a result of Action 3.11.

EDUCATION GOALS, OBJECTIVES AND ACTION ITEMS

The Education action items relate to Chapter 4 of the Bicycle Plan, and would accomplish the following goals and objectives:

Chapter 4 Goal:

- Educate the Public about Bicycle Safety

Chapter 4 Objectives:

- Create, fund, and implement bicycle safety curricula for the general public and targeted populations; and
- Create, fund, and implement bicycle safety outreach campaigns for motorists, bicyclists, and the general public.

The overall goal of the following action items is to educate the general public and targeted populations about bicycle safety. This would be accomplished by creating, funding, and implementing bicycle-safety curricula for the intended groups while also creating, funding, and implementing bicycle-safety outreach campaigns for motorists, bicyclists, and the general public. These programs would develop safety awareness by 1) providing information to the public through outreach channels such as media campaigns, brochures, and websites and by 2) teaching specific bicycle handling and traffic maneuvering skills through classroom instruction and practical on-bike training. Jointly, these programs would raise awareness of motorist and bicyclist responsibilities for safe roadway sharing and would encourage safe

cycling and driving behavior. As discussed below, these action items would have no significant impact on the environment.

Action 4.1
Provide SFMTA bicycle safety information to diverse age, income, and ethnic populations.

No physical environmental impact would result from SFMTA provision of information specifically to diverse age, income, and ethnic populations. The environmental impact of current outreach efforts might include the minor physical effects of the use of natural resources in producing printed materials, but this impact would be minimal. The effect from this action would remain the same as experienced under current publicity programs. Only the focus of the publicity program would change. Therefore, there would be no significant environmental impact as a result of Action 4.1.

Action 4.2
Provide SFMTA bicycle safety information in languages that are widely used within San Francisco, such as Chinese and Spanish.

No physical impact would arise from the provision of SFMTA bicycle safety information in non-English languages that are widely used within San Francisco. As noted under Action 4.1, this action would only constitute a change in publicity focus. Therefore, there would be no significant environmental impact as a result of Action 4.2.

Action 4.3
Partner with other agencies, where appropriate, to distribute SFMTA bicycle safety education materials in mass mailings.

In order to reach those that live, work, and visit in San Francisco, who otherwise would not have ready access to bicycle safety education materials, Action 4.3 would require that the SFMTA work with other agencies to distribute these materials through avenues not generally related to bicycle education, and, therefore, more likely to reach the general public. Implementation of Action 4.3 would serve to expand bicycle safety awareness to a larger audience and, therefore, would promote safer cycling conditions. The allowance for the use of mail delivery vehicles to deliver these mass mailings would have no significant effect on the environment as mail delivery vehicles make a certain number of trips and stops on a daily basis in the course of delivering other mail. No additional vehicle trips or vehicle emissions would result from the inclusion of these fliers in the US Postal Service. Therefore, there would be no significant environmental impact as a result of Action 4.3.

Action 4.4
Work with the SFPD to create a bicycle traffic school curriculum as an option in lieu of other pecuniary penalties for traffic law violators.

Cooperative efforts between the SFMTA and SFPD to create a bicycle traffic school curriculum would involve the exchange of ideas and would not produce physical impacts on the environment. The provision of this curriculum in lieu of other pecuniary penalties for traffic law violators could result in drivers and bicyclists being prepared to better share the road. This may result in an increase in bicycle ridership as a result of these classes. Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles, and, thereby, safely accommodate increased bicycle use in the City. Thus, there would be no significant environmental impacts as a result of Action 4.4.

Action 4.5
Increase SFMTA participation in Bike to Work Day activities by providing resources and materials as staff availability and funding allow.

Bike to Work Day gains notoriety and participation with each passing year. It provides an excellent opportunity to promote bicycle transportation and encourage driver awareness of bicycle commuting. An increase in SFMTA participation in Bike to Work Day activities by providing resources and materials as staff availability and funding allow would promote the use of bicycles for commute transportation. SFMTA's role could include organizing community bicycle safety, maintenance and riding skills presentations as well as encouraging participation in the event by the City's leaders. While implementation of Action 4.5 would increase the effectiveness of Bike to Work Day in promoting bicycling in San Francisco, it would not result in physical changes to the transportation network in San Francisco. Therefore, there would be no significant environmental impacts as a result of Action 4.5.

Action 4.6
Implement new outreach campaigns for improved bicycle facilities.

The implementation of new outreach campaigns for improved bicycle facilities would involve the production and distribution of information, including in print form, and would not result in a significant environmental impact. The allowance for the use of mail delivery vehicles to deliver these fliers would have no significant effect on the environment as mail delivery vehicles make a certain number of trips and stops on a daily basis in the course of delivering other mail. No additional vehicle trips or vehicle emissions would result from the inclusion of these fliers in the US Postal Service. Therefore, there would be no significant environmental impact as a result of Action 4.6.

Action 4.7
Develop SFMTA bicycle safety classes for City employees.

The development of bicycle safety classes for City employees would involve curriculum development and an instructional process or the provision of instructional materials. No direct physical change to the environment would arise from this policy. However, this class could encourage and lead to a higher rate of bicycle commutes among City staff. Should this occur, there may be a reduction in City staff auto commute trips or transit trips which may lead to a reduction in vehicle emissions in the City and in the regions from which City staff commute. Any increase in bicycle ridership as a result of these classes is not likely to result in significant transportation impacts. Thus, there would be no significant environmental impacts as a result of Action 4.7.

Action 4.8
Develop an SFMTA bicycle safety workshop for transit vehicle operators and other large fleet-vehicle operators.

The development and delivery of a bicycle safety workshop geared toward transit vehicle and large-fleet operators would improve safety for bicyclists using City streets. However, neither the administrative phase of this program development nor the actual program implementation, namely, implementation of safe driving practices around bicycles by transit and large-fleet operators, would have an impact on the physical environment. Thus, there would be no significant environmental impacts as a result of Action 4.8.

Action 4.9
Develop bicycle education curricula for use in the San Francisco Unified School District (SFUSD) and San Francisco public colleges, and to be shared with other schools.

Development of bicycle safety curricula for use in the San Francisco Unified School District (SFUSD) and San Francisco public colleges would be an administrative task involving information exchange, analysis, document writing, and the possible delivery of instruction. None of these activities would have an impact on the physical environment. The indirect impact of improved bicycle safety among San Francisco students would be improved safety for bicyclists in San Francisco, but would have no impact on the physical environment. Thus, there would be no significant environmental impacts as a result of Action 4.9.

Action 4.10
Work with the SFUSD to promote a transportation curriculum in lieu of driver's education at City high schools, which provides instruction on all modes of transportation.

Collaboration between the SFMTA and San Francisco Unified School District (SFUSD) to promote a curriculum of instruction in all modes of transportation in lieu of just driver's education would involve meetings and the exchange of ideas. Indirect environmental impacts would potentially include the implementation of a revised transportation education program. This program might encourage new student drivers to adopt modes of transportation other than the automobile at higher rates than these students are currently adopting these alternative modes. Another indirect result from implementation of this policy may be the potential improvement in automobile driving around bicycles and a potential improvement in bicycle riding and road-sharing habits on City streets. While these indirect imparts could improve transportation safety levels in the City, they would not cause any impact on the physical environment. Thus, there would be no significant environmental impacts as a result of Action 4.10.

Action 4.11
Periodically evaluate and adjust, where appropriate, the SFMTA's bicycle safety program.

The SFMTA's periodic evaluation of their bicycle safety program would be an administrative activity with no direct impact on the environment. The potential result of such a review policy would be that the SFMTA might recommend changes in the safety program training or the form or focus of outreach efforts, to ensure greater safety than may be afforded under the current program. Safety training and outreach programs have been found to have no significant environmental impacts as discussed above in Actions 4.1 through 4.10. Therefore, any revision in the type of training or outreach, arising out of this evaluation of the bicycle safety program also would have no impact on the physical environment. Thus, there would be no significant environmental impacts as a result of Action 4.11.

ENFORCEMENT AND SAFETY GOALS, OBJECTIVES AND ACTION ITEMS

This Enforcement and Safety discussion refers to Chapter 5 of the Bicycle Plan, and would accomplish the following goals and objectives:

Chapter 5 Goal:

- Improve Bicycle Safety through Targeted Enforcement

Chapter 5 Objectives:

- Increase San Francisco Police Department (SFPD) enforcement of motorist and bicyclist traffic violations that pose the greatest threat to safety;
- Provide SFMTA bicycle safety education to SFPD staff and to those cited for moving violations that focuses on safe cycling, relevant traffic laws, and safe sharing of the roadway; and
- Increase SFMTA and SFPD enforcement of motorist violations in bicycle facilities.

Bicycle safety is an important issue for all roadway users whether they are drivers of personal automobiles, transit vehicles, delivery trucks and taxis, or pedestrians, transit riders, and bicyclists. The Bicycle Plan proposes targeted enforcement and safety programs to improve bicycle safety. The following action items would modify existing enforcement practices by the San Francisco Police Department (SFPD), would implement other changes to influence motorist and bicyclist behavior in following the rules of the road, and would ultimately lead to increased road safety for bicyclists and other modes of transportation that share the road with bicyclists. Therefore, these actions would have no significant impact on the environment.

Action 5.1
Work with the SFPD to place a high priority on enforcement of both bicyclist and motorist violations that most frequently cause injuries and fatalities.

Collaboration between SFMTA and the SFPD to place a high priority on enforcement of bicyclist and motorist violations that most frequently cause injuries and fatalities would involve only administrative actions (namely, interdepartmental collaboration) and the indirect result would consist of the reorganization of existing priorities and existing police responsibilities and activities. No new police activities or responsibilities would be created. The reorganization of existing priorities, actions, and responsibilities would have no significant impact on the physical environment.

Action 5.2
Work with the SFPD to develop a "fix-it ticket" program for bicycle equipment violations.

A "fix-it-ticket" program would give bicyclists cited for riding without lights or reflectors the option to avoid a fine if they present evidence of properly equipping their bicycle with the required equipment within a reasonable amount of time. Collaboration between SFMTA and SFPD to develop a "fix it" ticket program for bicycle equipment violations would involve the administrative act of interdepartmental collaboration. It would ultimately allow for the issuance

of "fix it" tickets to bicyclists riding bicycles with equipment violations, which would increase bicycle safety on City streets, but it would have no direct or indirect significant environmental impacts.

Action 5.3
Work with the SFPD to develop a method to systematically share non-collision bicyclist citations with the SFMTA.

Collaboration between SFMTA and SFPD to develop a method to share non-collision bicycle citation information would involve meetings, communication, and other exchange of ideas and information. There would be neither direct nor indirect significant impacts on the physical environment as a result of Action 5.3.

Action 5.4
Work with the SFPD and the Superior Court of California to develop and implement a bicycle traffic school program as an option for those cited for moving violations.

Similar to Action 4.10, the SFMTA, SFPD, and Superior Court of California's collaboration to develop and implement a bicycle traffic school program as an option for those cited for moving violations would require meetings and the exchange of ideas during the policy development and curriculum formulation process. Indirect result from the implementation of Action 5.4 may include improvement in automobile driving around bicycles and improvement in bicycle riding and road-sharing habits on City streets. While these indirect impacts could improve transportation safety levels in the City, they would not cause any impact on the physical environment. Therefore, there would be no significant impacts as a result of Action 5.4.

Action 5.5
Support efforts to change *California Vehicle Code* (CVC) Section 21754 (Passing on the right) so that it applies to bicycles.

The SFMTA's support of efforts to change the *California Vehicle Code (CVC)* Section 21754 to apply the regulation for passing on the right to bicycles would be administrative in nature, with no direct impacts on the physical environment. In the event that the *California Vehicle Code* is amended to reflect this request, this action item may encourage bicyclists to pass on the right. This may create a safety issue since there is impaired vision on the right side of vehicles and bicyclists' actions as a result of this change may lead to conflicts between cyclists and motorists. However, changes to the *California Vehicle Code* such as may result from Action 5.5 are outside the jurisdiction of SFMTA, and any potential impacts resulting from such a change would be analyzed and considered as part of the legislative process.

Action 5.6
Increase parking enforcement and fines for violations involving vehicles parking or double parking in bicycle lanes.

An increase in parking enforcement and fines for violations involving vehicles parking or double-parking in bicycle lanes would have no impact on the physical environment. Similar to Action 5.2, this collaboration between SFMTA and SFPD only would lead to a reprioritization of existing police responsibilities and activities. No new police activities or responsibilities would be created. The simple reorganization of existing priorities, actions, and responsibilities as proposed under Action 5.6 would have no significant impact on the physical environment.

Action 5.7
Post "no stopping in bike lane" signs along bicycle lanes where double parking violations occur and work with the SFPD to increase enforcement of these violations.

The posting of "no stopping in bicycle lane" signage along some bicycle lanes would have the same impacts as the posting of the bicycle signage discussed in Subsection V.A.4 of this document. Consistent with the findings of Subsection V.A.4, the posting of these bicycle signs would have a less-than-significant impact. The second part of this policy, namely SFMTA working with SFPD to increase enforcement of these violations would have no direct impacts as the act of collaboration would involve meetings and the exchange of information only. There would also be no indirect impacts from providing support for increased enforcement of certain violations as the SFPD already has laws and policies related to enforcement of traffic violations. Action 5.7 would support a reprioritization of some enforcement actions. However, as police duties would not increase, the reorganization of existing priorities, actions, and responsibilities would have no impact on the physical environment.

Action 5.8
Work with the SFPD to increase the enforcement of the prohibition of operating motorcycles in bicycle lanes.

Further collaboration between SFMTA and SFPD to increase enforcement of the prohibition of operating motorcycles in bicycle lanes would involve an exchange of ideas and information which would have no inherent ability to impact the physical environment. Action 5.8 may have an indirect beneficial effect of reducing bicycle/motorcycle conflicts. Therefore, there would be no significant environmental impacts related as a result of Action 5.8.

Action 5.9
Develop an SFMTA bicycle safety curriculum for all SFPD police officers, which focuses on the rights and responsibilities of bicyclists and techniques required for safe and legal sharing of the roadway.

The development of curriculum materials on bicyclist rights and responsibilities for SFPD officers would be an administrative undertaking with no potential to impact the environment. The use of these materials in educating SFPD officers would allow the SFPD to effectively patrol and enforce bicycle safety laws and laws related to safety in bicycle interaction with other forms of transportation. This indirect result would improve safety for bicyclists and users of other forms of transportation, with whom they share the roads, but would have no effect on the physical environment.

Action 5.10
Work with the SFPD to increase bicycle-mounted enforcement patrols.

While collaboration between the SFMTA and SFPD to increase bicycle-mounted patrols would not in itself have an impact on the physical environment, the potentially resultant increase in bicycle-mounted patrols could reduce the number of police officers who would need to patrol in cars. By replacing some car-based patrols with bicycles, there may be a potential reduction in SFPD patrol car-generated vehicle emissions. This would represent a change in existing practices by the SFPD, but would not result in changes to the transportation system. Therefore, there would be no significant environmental impacts as a result of Action 5.10.

Action 5.11
Work with the SFPD to develop a system for hospitals, emergency rooms, and clinics to report all instances of bicyclist injuries to the SFPD and to the SFMTA.

Any SFMTA and SFPD cooperation in developing a system for hospital, emergency room, and clinic reporting of bicyclist injuries would involve the exchange of ideas and information, and would have no environmental impact. Implementation of this policy could lead to the indirect impact of the implementation of a bicyclist injury reporting program. Such a reporting program would also involve the exchange and sharing of information and would not constitute an environmental impact.

Action 5.12
Inform bicyclists that they are legally entitled to file a collision report when one is not initiated by the police.

The provision of information on legal entitlements in case of a collision would constitute an information sharing activity without environmental implications. The indirect impact of this information sharing may include an increase in bicyclist claims for collisions on San Francisco streets. Therefore, there is no apparent indirect environmental impact that would arise from implementation of Action 5.12.

Action 5.13
Develop a standardized procedure for reporting bicycle-related incidents with transit vehicles and ensure that this information is readily available to appropriate City staff.

The development of a standardized procedure for reporting bicycle-related incidents with transit vehicles and the timely provision of this information to City staff would be an administrative action involving development of procedures to accomplish the reporting goals defined. These administrative activities would not affect the environment. The implementation of this policy would also allow for the ready sharing of information with no potential indirect impact on the physical environment.

PROMOTION GOALS, OBJECTIVES AND ACTION ITEMS

This Promotion discussion relates to Chapter 6 of the Bicycle Plan, and identifies action items that would fulfill the following goals and objectives:

Chapter 6 Goal:

- Promote and Encourage Safe Bicycling

Chapter 6 Objectives:

- Through community partnerships, identify funding, develop, and implement bicycle media campaigns and promotional materials to promote bicycling as a safe, healthy, cost-effective, environmentally beneficial transportation choice; and
- Target promotional materials to San Francisco's diverse population groups.

The Bicycle Program seeks to enhance awareness of the benefits of bicycling for commuting, shopping, recreational and personal health purposes and to encourage safe bicycling practices. The following action items would accomplish these promotional goals, and would not have a significant impact on the environment.

Action 6.1
Promote the benefits of bicycling to diverse age, income, and ethnic populations.

The SFMTA's actions to promote the benefits of bicycling to diverse age, income, and ethnic populations would not have a significant impact on the environment. As discussed for Action 4.1, this promotional activity would involve a change of focus from standard audiences to a potentially more diverse audience. The effect of this change in promotional orientation would have no significant impact on the environment.

Action 6.2
Work with the Department of the Environment (SF Environment), the Department of Public Health (DPH), and other City agencies to formalize bicycle education and promotion responsibilities.

The SFMTA's work to development partnerships with the Department of the Environment (SF Environment), Department of Public Health (DPH), and other City agencies to formalize bicycle education and promotion responsibilities would require the exchange of ideas and information as well as other administrative activities. These activities would have no significant impact on the physical environment.

Action 6.3
Work with all City agencies to expand bicycle promotion and incentive programs for City employees to serve as a model for other San Francisco employers.

The SFMTA's work with other City agencies to expand bicycle promotion and incentive programs for City employees to serve as a model program for other San Francisco employers would involve collaborative processes with no direct environmental impacts. However, the implementation of this collaboration could lead to increased City employee bicycle commute levels. An increase in bicycle commuting may be accompanied by some reduction in automobile commuting or transit use which may result in a reduction in vehicle emissions in the City. Likewise, an indirect result of this program could be increased levels of bicycle commuting by employees of other companies should those companies follow the City's lead. This shift from automobile or transit commuting to bicycle commuting may reduce vehicle emissions levels in the City. Projects and treatments proposed for the Bicycle Plan are designed to reduce conflicts between bicyclists and other vehicles, and, thereby, safely accommodate increased bicycle use in the City. Although implementation of Action 6.3 may increase bicycle use, it is unlikely to lead to significant transportation impacts. Therefore, there would be no significant environmental impacts resulting from Action 6.3.

Action 6.4
Include, where appropriate, telephone and web-based contact information for the MTC "511" program on relevant SFMTA materials.

The inclusion of telephone and web-based contact information for the MTC "511" program, on some SFMTA materials, would promote the use of this resource among commuters, particularly automobile drivers. Through the "511" program, some drivers could identify rideshare partners or could identify ways of commuting by transit, bicycle, or other means other than single-occupancy vehicles. The actual act of including this information on SFMTA materials would have no impact on the environment, and the indirect impact of broadly disseminating this information would potentially be a reduction in single-occupancy vehicle use, which would lead to reduced vehicle emissions. This positive environmental impact is considered no impact, for the purposes of this analysis.

Action 6.5
Encourage and promote bicycle-related businesses within San Francisco.

In addition to the improvements and policies proposed elsewhere in this document, SFMTA actions to encourage and promote bicycle-related businesses within San Francisco could involve the adoption of policies, coordination with other City and Bay Area business development and transportation agencies, publicity campaigns, and incentives such as "shop by bicycle discounts." All of these actions would involve the exchange of information and possible publicity efforts. None of these administrative, publicity, or cooperative actions would generate transportation-related physical impacts on the environment aside from the potential generation of vehicle emissions related to the distribution of materials. As previously discussed in Action 4.3, the delivery of publicity and other materials would not lead to increased vehicle emissions. This current policy would have no direct or indirect impact on the physical environment.

Action 6.6
Conduct a feasibility study for a public bicycle sharing program, and if feasible, develop a plan for potential future implementation including any required environmental review.

The act of developing a public bicycle sharing program would be administrative, involving research and the exchange of information. Neither research nor information exchange would generate environmental impacts. Action 6.6 would offer SFMTA the opportunity to test the feasibility of a bicycle sharing program in San Francisco. This action would result in a study to collect data regarding this proposed program. As a study, the effects would be temporary and would not lead to any significant transportation impacts. Once developed and tested, the

bicycle sharing program may be subject to subsequent environmental review should the SFMTA consider permanent implementation and prior to adoption of such a program. Therefore, there would be no significant environmental impacts as a result of Action 6.6.

GENERAL PLAN AMENDMENTS, ENVIRONMENTAL REVIEW, AND CITYWIDE COORDINATION GOALS, OBJECTIVES, AND ACTION ITEMS

This *General Plan* Amendments, Environmental Review, and Citywide Coordination discussion refers to Chapter 7 of the Bicycle Plan. The action items discussed here would fulfill the following goals and objectives:

Chapter 7 Goal:

- Adopt Bicycle-Friendly Practices and Policies

Chapter 7 Objective:

- Integrate consideration of bicycle travel into all roadway planning, design, and construction

Policy modifications to the *General Plan*, environmental review guidelines, and application of performance measures would achieve the goals of the Bicycle Plan in part by incorporating the Bicycle Plan into the *General Plan* including the Transportation Element, as well as ensuring consistency of relevant Area Plans with the Bicycle Plan. Future updates to the Bicycle Plan would also be coordinated with these documents. These policies would also affect the process for environmental review of the Bicycle Plan and the methodologies used to ensure that impacts on bicycles are considered for new projects. In addition, SFMTA would coordinate with other public agencies with jurisdiction within the City and County of San Francisco when those agencies propose bicycle facilities within the City. The following action items would accomplish the Bicycle Plan's goals by coordinating the aforementioned diverse documents and policies with the Bicycle Plan. The potential environmental effects of the above goals and objectives are presented below.

Action 7.1
Incorporate this Bicycle Plan in whole, by reference, into the *General Plan* and amend sections of the *General Plan* that are relevant to bicycling, including the Transportation Element and relevant Area Plans, according to the goals of this Bicycle Plan.

Action 7.1 would involve the incorporation of the Bicycle Plan into the *General Plan*, and amendment of sections of the *General Plan* relevant to bicycling according to the goals of the Bicycle Plan, would accomplish the goals described in the Bicycle Plan. The act of amending

City policies that include references to bicycling, or that conflict with the policies adopted as a part of this Bicycle Plan, would involve the preparation of staff reports, review by City administration and elected officials, publication of these items prior to their approval and adoption. All of these actions involve the dissemination of information through existing reporting channels and existing publications. These administrative actions would have no direct impact on the environment. The indirect effect of the incorporating the Bicycle Plan policies into existing City legislation and regulatory documents would result in the implementation of projects and programs to further the Bicycle Plan goals. The impacts related to these actions are identified and analyzed within this environmental document in this subsection as well as the subsequent Subsections, V.A.3, V.A.4, and V.A.5 with respect to traffic, transit, parking, pedestrians, bicycles, and loading. The transportation impact study completed for the Bicycle Plan update has identified significant impacts resulting from some of the near-term and long-term improvements. All actions that could potentially result in direct or indirect physical impacts on the environment have been analyzed with respect to traffic, transit, parking, pedestrians, bicycles, and loading. The information regarding potentially significant environmental impacts is presented in this report in Subsections V.A.3, V.A.4, and V.A.5. The indirect impacts of Action 7.1 would be the same as all of these environmental impacts identified throughout this document as follows:

Subsection V.A.3 identifies project-level impacts including both potentially significant impacts, and significant and unavoidable impacts, including a potential reduction of traffic levels of service, potential slowing of transit movement in the City, and potential reduction of truck loading spaces. With respect to potential impacts related to parking, pedestrians, and bicycles and reviewed in the Subsection V.A.3 project-level review, all impacts were identified as being less-than-significant or as having no potential to impact the physical environment.

Subsection V.A.4 recognizes no program-level impacts related to minor improvements with respect to traffic, transit, parking, pedestrians, bicycles, or loading for either the individual improvements, or in a cumulative context.

Subsection V.A.5 recognizes four potentially-significant and unavoidable impacts that could result from long-term improvements. These potential impacts could be individually significant and could also be cumulatively significant (when this project is combined with other anticipated projects). These potential impacts include the following:

- Potential reduction in roadway capacity and increased traffic delays; reduction in the number of travel lanes could subject vehicles, including transit using the affected

roadways, to increased congestion and delays; increased delays could result in drivers diverting to other, potentially less convenient, routes to access their destinations

- Potential to cause the level of service, at an intersection's worst approach, to deteriorate from LOS D or better to LOS E or F with Caltrans signal warrants met; and/or potential to have significant adverse impacts at intersections that operate at LOS E or F under existing conditions
- Potential to cause transit to experience increased travel time on streets where these improvements reduce capacity of roadways and result in significant increases in delay; buses may experience increased difficulty pulling into and out of curb bus stops due to reconfiguration of bus stops to accommodate bicycle lanes
- Potential to result in elimination of curb space currently dedicated to yellow commercial vehicle freight loading zones or active passenger loading/unloading zones

As discussed in Subsection V.A.5 program-level review for the long-term improvements, there would be no other significant impacts related to long-term improvements.

Although no direct environmental impacts would result from adoption of Action 7.1, the indirect impacts noted above would be potentially significant and unavoidable.

Significant Impact TR-A7.1

Incorporation of the Bicycle Plan into the *General Plan*, and amendment of sections of the Area Plans relevant to bicycling would accomplish the goals otherwise described in this Bicycle Plan. An indirect result of action 7.1 would, therefore, be the support of construction of improvements or implementation of other changes presented as part of the Bicycle Plan and analyzed with respect to potential impacts on traffic, transit, parking, pedestrians, bicycle, and loading in Subsections V.A.3, V.A.4, and V.A.5 of this EIR. Some of these improvements would have a significant impact on the physical environment. The indirect impacts of these actions would include the significant impacts identified for the near-term and long-term improvements in Subsections V.A.3 and V.A.5 of this EIR, including potential worsening of traffic levels of service, potential slowing of transit movement in the City, and potential reduction of truck loading spaces. Mitigation measures have been identified for some of the significant impacts which would reduce the level of impact to less-than-significant. However, for some of the significant impacts, no feasible mitigation measures have been identified. Therefore, some of these significant impacts have been determined to be significant and unavoidable.

Action 7.2
Ensure adequate and appropriate environmental review under the California Environmental Quality Act for the Bicycle Plan and all discretionary actions under the Bicycle Plan that may have a direct or indirect physical environmental impact.

The SFMTA's actions to ensure appropriate environmental review under the CEQA for the Bicycle Plan and all discretionary actions under the Bicycle Plan that may have a direct or indirect physical impact on the environment would not have any direct impact on the environment. The CEQA process requires research, exchange of information, writing and publication and consideration of CEQA findings. The indirect impact of CEQA analysis is that all potential environmental impacts would be identified prior to adoption or approval of any plan or policy. This form of full disclosure would allow decision-makers to choose whether to limit the environmental impacts through their decisions. Compliance with CEQA for Bicycle Plan projects would not result in a significant environmental impact.

Action 7.3
Work with the Planning Department to coordinate updates to the *General Plan*, if necessary, as subsequent amendments and updates to the Bicycle Plan and bicycle route network occur.

Similar to Action 7.1, collaboration between the SFMTA and Planning Department to coordinate updates to the *General Plan* in accord with subsequent updates and amendments to the Bicycle Plan and bicycle route network would lead to no direct impacts as this work would involve administrative and information sharing processes. Also similar to Action 7.1, the indirect impacts may result from the improvement projects and programs implemented to further policy goals. Any future changes to the Bicycle Plan or bicycle route network would be subject to analysis under CEQA as noted in Action 7.2.

Significant Impact TR-A7.3

Collaboration between the SFMTA and Planning Department to coordinate updates to the *General Plan* in accord with subsequent updates and amendments to the Bicycle Plan and bicycle route network would accomplish the goals otherwise described in this Bicycle Plan. An indirect result of this action may be the construction of improvements or implementation of other changes similar to those presented as part of the Bicycle Plan and analyzed here with respect to potential impacts on traffic, transit, parking, pedestrians, bicycles, and loading in Subsection V.A.3, V.A.4, and V.A.5 of this EIR. Future improvements resulting from Action 7.3 may result in significant impacts on the physical environment similar to those described in this report with respect to traffic, transit, and loading for the near-term and long-term improvements in

Subsections V.A.3 and V.A.5 of this EIR, including potential worsening of traffic levels of service, potential slowing of transit movement in the City, and potential reduction of truck loading spaces. Some of these significant impacts have been determined to be significant and unavoidable. Therefore, there may be indirect significant impacts as a result of Action 7.3.

Action 7.4
Work with the Planning Department to ensure that all current and proposed Area Plans' objectives and policies, on balance, are consistent with the goals of the San Francisco Bicycle Plan. Whenever updates or revisions are considered to existing Area Plans, especially those that do not now contain sections on bicycling, these Area Plans should include sections on bicycling consistent with the goals of the Bicycle Plan.

The future inclusion of sections on bicycling, where Area Plans lack those sections, would have no direct impact on the environment as this inclusion of policies would require analysis and information exchange, but would be an administrative task with no direct environmental component. The indirect impact of this policy would be the implementation of specific bicycle facilities to support the visions of a particular Area Plan. New Area Plans or revisions to existing Area Plans would be subject to environmental review prior to adoption and the bicycle-related elements would be included in this environmental review. The policy itself would have no direct environmental impacts, but would allow for improvements to be proposed subject to future environmental review and consideration. These improvements could result in impacts similar to those analyzed in Subsections V.A.3, V.A.4, and V.A.5 of this report with respect to potential impacts on traffic, transit, parking, pedestrians, bicycles, and loading. Some of these improvements may have a significant impact on the physical environment. Therefore, there may be significant impacts as a result of Action 7.4.

Significant Impact TR-A7.4

The process to develop an Area Plan or update an existing Area Plan to reflect Bicycle Plan policies may indirectly result in the construction of bicycle facility improvements or implementation of other changes within an Area. These improvements could result in impacts similar to those summarized in Subsection V.A.3, V.A.4, and V.A.5 of this report with respect to potential impacts on traffic, transit, parking, pedestrians, bicycles, and loading. Some of these improvements may have a significant impact on the physical environment. The indirect impacts of these actions would include environmental impacts similar to the identified significant impacts that may result from implementation of the near-term and long-term improvements in Subsections V.A.3, and V.A.5 of this report, including potential worsening of traffic levels of service, potential slowing of transit movement in the City, and potential reduction of truck loading spaces. Mitigation measures have been identified to address some of these significant

impacts. However, there are some for which no feasible mitigation measures have been identified. Therefore, there may be indirect significant impacts as a result of Action 7.4.

Action 7.5
Work with the Planning Department, as transportation impact guidelines are updated, to ensure impacts of new projects consider bicycles.

Bicycle impact analysis is currently undertaken as part of the larger transportation impact analysis of the project environmental review processes. Action 7.5 would ensure that the SFMTA would work with the Planning Department for the continuation, enhancement, and establishment of a more detailed qualitative bicycle impact analysis as an integral part of the overall transportation analysis for future projects.

The action of analyzing bicycle impacts and impacts on bicycles as part of the overall transportation analysis for projects by the Planning Department and SFMTA would not result in any direct or indirect physical changes to the transportation network. The indirect impact of this policy would be development and presentation of more detailed analysis of project impacts on all modes of transportation for decision-makers. There would be no significant impacts as a result of Action 7.5.

Action 7.6
When City transportation or development studies include non-automated traffic counts, work with the responsible San Francisco agencies to collect, where appropriate: bicycle counts; an inventory of existing bicycle parking within a two-block radius of the study site; and the project's potential impacts on any existing or proposed bikeways.

The collection of non-automated bicycle counts in certain instances, creation of an inventory of bicycle parking within a two-block radius of the bicycle count location, and analysis of future transportation or development project impacts on bikeways would require data collection and analysis. In the former case, observers would be placed at or adjacent to studied locations for a period of time varying from less than a day to a week or two weeks at most. The short-term presence of data collection observers, or monitoring equipment, could temporarily distract drivers, pedestrians, and cyclists in the areas under study. Such distraction could indirectly cause a slight worsening in local air quality, as motorists slow to observe the study activity. However, citizens using public right-of-way encounter a variety of distractions on a regular basis, and often slow slightly to observe the activity or navigate around it in a cautious manner. The increase in emissions released by short-term driver-observer vehicle slowing is not appreciable. Any increase in emissions would have a less-than-significant impact on the environment.

It is possible that the observers or observational equipment could occupy one or more parking spaces in the area in which the study is being conducted. This temporary and minor reduction in available parking would be a temporary impact and would not be significant. Therefore, there would be a less-than-significant impact as a result of Action 7.6.

Action 7.7
Work with public agencies with jurisdictions or rights-of-way within San Francisco to ensure coordination of any proposed bicycle facilities.

The bicycle route network in San Francisco, regardless of the jurisdiction of the land, needs to be continuous and coordinated. This action would require the SFMTA to work with public agencies to coordinate all bicycle planning efforts within San Francisco regardless of the jurisdiction for the area of project impact. The coordination of bicycle facilities between the SFMTA and other agencies with jurisdiction or rights-of-way within San Francisco would involve the sharing of information which would have no impact on the physical environment. The indirect result of this coordination could include implementation of bicycle facilities such as bicycle lanes or sharrows on rights-of-way within the City but under another agency's jurisdiction. Any change that would itself affect the physical environment would be subject to separate environmental review which would be the responsibility of the agency with jurisdiction.

In addition to the above proposed action items, SFMTA would conduct a study to determine the feasibility of permitting bicycles on sidewalks in limited circumstances on a case-by-case basis. Additional environmental review may be required prior to amendments to the appropriate San Francisco Codes to allow bicycling on sidewalks.

Bicycling on sidewalks in limited circumstances: Bicycling on the sidewalk is generally inappropriate, as the Caltrans Highway Design Manual indicates.[6] However, the Bicycle Program has identified certain circumstances where it may be appropriate to consider the pursuit of amendments to San Francisco Codes in order to allow this activity on a case-by-case basis. These include (a) when it would be necessary permit bicycles on sidewalks in order to provide bikeway continuity along high speed or heavily traveled roadways having inadequate space for bicyclists, and which are also uninterrupted by driveways and intersections for long distances; and (b) on long, narrow bridges. In such cases, ramps should be installed at the

[6] California Department of Transportation. 2007. Highway Design Manual. Chapter 1000 Bikeway Planning and Design. Available online at http://www.dot.ca.gov/hq/oppd/hdm/pdf/english/chp1000.pdf [Accessed September 30, 2008].

sidewalk approaches. If approach bikeways are two-way, sidewalk facilities should also be two-way.

This proposed additional action would result in conduct of a study by SFMTA to evaluate the feasibility of permitting bicycles on sidewalks. The implementation of the study would require administrative planning and information-gathering activities, and the allowance of bicycling on sidewalk in limited circumstances for the study period. While data collection could affect the flow of pedestrian and bicycle traffic, and bicycling on the sidewalk could interrupt the flow of pedestrian traffic, any such interruptions would be temporary in nature and their impacts would be less than significant. Formal adoption of a policy, to allow bicycling on sidewalks in the City would require separate environmental review of potential impacts. Therefore, there would be no significant environmental impacts as a result of this action.

BICYCLE FUNDING GOALS AND OBJECTIVES

This Bicycle Funding discussion relates to Chapter 8 of the Bicycle Plan, and includes action items that would accomplish the following goals and objectives:

Chapter 8 Goal:

- Prioritize and Increase Bicycle Funding

Chapter 8 Objective:

- Identify and pursue new and existing local, regional, state, and federal funding sources for bicycle facility improvements and bicycle education and promotion programs.

The Bicycle Funding Chapter identifies local, regional, state, and federal funding sources that could potentially provide funding to carry out bicycle projects and programs. To implement the various recommendations of the Bicycle Plan, the Bicycle Program would seek funding from potential sources identified in the Bicycle Plan. Below is an action item to achieve this goal. This activity may result in a significant impact on the physical environment.

Action 8.1
Work with appropriate agencies to identify funding to assist in achieving the goals and objectives set forth in this Bicycle Plan.

Work between the SFMTA and other agencies, to identify funding to assist in achieving the Bicycle Plan goals and objectives would involve the exchange of information, which has no potential to impact the physical environment. Success in identifying funding sources would result in implementation of projects to support the Bicycle Plan goals and objectives.

Environmental impacts that would arise from such implementation have been identified in Subsections V.A.3, V.A.4, and V.A.5 of this document. The most substantial of these include a potential reduction of traffic levels of service at some intersections, potential slowing of transit movement in the City, and potential reduction of truck loading spaces. The indirect impacts of Action 8.1 are, therefore, the same as the Bicycle Plan's environmental impacts, as shown in the remaining transportation analysis Subsections V.A.3, V.A.4, and V.A.5 of this EIR and in some instances have been found to be potentially significant and unavoidable.

Significant Impact TR-A8.1

Collaboration between the SFMTA and other agencies to identify funding to assist in achieving the Bicycle Plan goals, objectives, and actions would involve the exchange of information which would have no direct impact on the physical environment. However, success in identifying funding sources would result in implementation of projects to support the Bicycle Plan goals and objectives. This action would, therefore, support the construction of improvements or implementation of other changes presented as part of the Bicycle Plan and analyzed in Subsections V.A.3, V.A.4, and V.A.5 of this EIR; some of these improvements would have a significant impact on the physical environment as identified in the transportation impact analysis, including potential worsening of traffic levels of service, potential slowing of transit movement in the City, and potential reduction of truck loading spaces.

SUMMARY OF IMPACT ANALYSIS

The above Goals, Objectives, and Actions are all designed to support and facilitate the Bicycle Plan's general goals and objectives, by (1) refining and expanding the existing bicycle route network; (2) ensuring plentiful, high-quality bicycle parking; (3) expanding bicycle access to transit and bridges; (4) educating the public about bicycle safety; (5) improving bicycle safety through targeted enforcement; (6) promoting and encouraging safe bicycling; (7) adopting bicycle-friendly practices and policies; and (8) prioritizing and increasing bicycle funding. Environmental impacts associated with these program-level Goals, Objectives, and Actions would vary, depending on the Action. These potential impacts are summarized below for each of the areas of potential impact.

Traffic

The implementation of these Bicycle Plan policy Goals, Objectives, and Actions would have no direct impact on the physical environment. However, implementation of these Goals, Objectives, and Actions could have the foreseeable indirect impact of the subsequent implementation of physical changes and improvements including those analyzed elsewhere in

Subsections V.A.3, V.A.4, and V.A.5 of this document. Therefore, the indirect impact of implementation of these Bicycle Plan policy Goals, Objectives, and Actions includes all potential impacts on traffic that are identified under the other Subsections of this EIR. These include the following:

- Potential reduction in roadway capacity and increased traffic delays; reduction in the number of travel lanes could subject vehicles, including transit using the affected roadways, to increased congestion and delays; increased delays could result in drivers diverting to other, potentially less convenient, routes to access their destinations
- Potential to cause the level of service, at an intersection's worst approach, to deteriorate from LOS D or better to LOS E or F with Caltrans signal warrants met; and/or potential to have significant adverse impacts at intersections that operate at LOS E or F under existing conditions

Parking

The implementation of these Bicycle Plan policy Goals, Objectives, and Actions would have no foreseeable direct or indirect significant impact on the physical environment in terms of parking. Therefore, no mitigation measures are required.

Transit

The implementation of these Bicycle Plan policy Goals, Objectives, and Actions would have no direct impact on the physical environment with respect to transit. However, implementation of these Goals, Objectives, and Actions could have the foreseeable indirect impact of the subsequent implementation of physical changes and improvements including those analyzed elsewhere in Subsections V.A.3, V.A.4, and V.A.5 of this document. Therefore, the indirect impact of implementation of these Bicycle Plan policy Goals, Objectives, and Actions includes all potential impacts on transit that are identified and enumerated in the other Subsections of this EIR.

Pedestrians

The implementation of these Bicycle Plan policy Goals, Objectives, and Actions would have no foreseeable direct or indirect significant impact on the physical environment in terms of pedestrian access, safety, and circulation. Therefore, no mitigation measures are required.

Bicycle

The implementation of these Bicycle Plan policy Goal, Objectives, and Actions would have no foreseeable direct or indirect significant impact on the physical environment in terms of bicycle access, safety, and circulation. Therefore, no mitigation measures are required.

Loading

The implementation of these Bicycle Plan policy Goals, Objectives, and Actions would have no direct impact on the physical environment. However, implementation of these Goals, Objectives, and Actions could have the foreseeable indirect impact of the subsequent implementation of physical changes and improvements including those analyzed elsewhere in Subsections V.A.3, V.A.4, and V.A.5 of this document. Therefore, the indirect impact of implementation of these Bicycle Plan policy Goals, Objectives, and Actions includes all potential impacts on loading that are identified and enumerated in the other Subsections of this EIR.

MITIGATION MEASURES

M-TR-A1.1

Mitigation Measures defined in Subsection V.A.3 shall be implemented in association with the 60 near-term improvements proposed and implemented under the Bicycle Plan. For those identified significant impacts with respect to traffic, transit, and loading in Subsection V.A.3 for which no feasible mitigation measures have been identified, the impacts remain significant and unavoidable.

M-TR-A1.2

Mitigation Measures discussed and defined in Subsection V.A.5 shall be implemented in association with long-term improvements proposed and implemented under the Bicycle Plan. Specific designs for the long-term improvements are unknown at this time. Once specific project designs for the long-term improvements are developed and analyzed for potential environmental impacts with respect to traffic, transit, and loading mitigation measures may be identified and implemented.

The environmental impacts resulting from the long-term improvements would be similar to those identified in Subsection V.A.3 for the near-term improvements which include significant impacts for traffic, transit and loading. Therefore, it likely that similar mitigation measures could be implemented to reduce the level of impact as a result of long-term improvements with respect to traffic, transit, and loading. However, as with the near-term improvements, there

may be some impacts for which no feasible mitigation measures may be identified. Those significant impacts may remain significant and unavoidable.

M-TR-A1.4

The indirect impacts of Action 1.4 could result in the implementation of improvements to support the City's Transit First Policy. Therefore, it would include potential impacts identified under all sections of this environmental review for the Bicycle Plan such as those discussed in the transportation impact analysis of the potential impacts of the near-term improvements, long-term improvements, and minor improvements as well as impacts that may result from future projects which would be similar to those discussed in this EIR. Physical improvements known at this time are analyzed in Subsections V.A.3, V.A.4, and V.A.5 of this document. As discussed in Subsection V.A.4, no significant impacts would result from implementation of the minor improvements. Mitigation measures have been identified in Subsections V.A.3 and V.A.5 that would address some of the significant impacts for near-term and long-term improvements. However, there are some impacts that would remain significant and unavoidable and those are also discussed in the above referenced sections.

M-TR-A7.1

As described under the mitigation measures M-TR-A1.1 and M-TR-A1.2 above for potential significant impacts TR-A1.1 and TR-A1.2 resulting from Actions A1.1 and A1.2, Mitigation Measures defined in Subsections V.A.3 and V.A.5 shall be implemented in association with improvements proposed and implemented under the Bicycle Plan for potential indirect impacts resulting from Action 7.1.

M-TR-A7.3

As described under the mitigation measure M-TR-A1.4 above for potential significant impacts TR-A1.4 resulting from Action A1.4, Mitigation Measures defined in Subsections V.A.3 and V.A.5 shall be implemented in association with improvements proposed and implemented under the Bicycle Plan for potential indirect impacts resulting from Action 7.3.

M-TR-A7.4

As described under the mitigation measures M-TR-A1.4 for potential indirect impact TR-A1.4 resulting from Action A1.4, Mitigation Measures defined in Subsections V.A.3 and V.A.5 shall be implemented in association with improvements proposed and implemented under the Bicycle Plan to address potential indirect impacts resulting from Action 7.4.

M-TR-A8.1

As described under the mitigation measures M-TR-A1.1 and M-TR-A1.2 above for potential significant impacts TR-A1.2 and TR-A 1.2 resulting from Actions A1.1 and A1.2, Mitigation Measures defined in Subsections V.A.3 and V.A.5 shall be implemented in association with improvements proposed and implemented under the Bicycle Plan to address potential indirect impacts resulting from Action 8.1.

CUMULATIVE CONDITIONS

This assessment evaluates the potential for the program-level Actions described in Subsection V.A.2 to result in cumulative impacts when considered in connection with the effects of other past, present, and reasonably foreseeable future projects, including the near-term improvements analyzed in Subsection V.A.3, and the minor and long-term improvements analyzed at a program-level in Subsections V.A.4 and V.A.5. The cumulative impacts of the near-term, minor improvements, and long-term improvements, are discussed in Subsections V.A.3, V.A.4, and V.A.5.

Traffic

In a cumulative sense, the implementation of these Bicycle Plan policy Goals, Objectives, and Actions would have no direct impact on the physical environment. However, implementation of these Goals, Objectives, and Actions could have the foreseeable indirect impact of allowing implementations of physical changes and improvements, including those analyzed in Subsections V.A.3, V.A.4, and V.A.5 of this EIR. Therefore, the indirect impact of implementation of these Bicycle Plan policy Goals, Objectives, and Actions includes all potential impacts on traffic that are identified and enumerated in the other Subsections as being potentially cumulatively significant and unavoidable.

Parking

The implementation of these Bicycle Plan policy Goals, Objectives, and Actions would have no foreseeable cumulatively considerable direct or indirect significant impact on the physical environment in terms of parking. Therefore, no mitigation measures are required.

Transit

The implementation of these Bicycle Plan policy Goals, Objectives, and Actions would have no direct impact on the physical environment. However, implementation of these Actions could have the foreseeable indirect impact of implementation of physical changes and improvements

including those analyzed elsewhere in Subsections V.A.3, V.A.4, and V.A.5 of this EIR. Therefore, the indirect impact of implementation of these Bicycle Plan policy Goals, Objectives, and Actions includes all potentially significant impacts on transit that are identified and enumerated in these other subsections as being potentially cumulatively significant and unavoidable.

Pedestrians

The implementation of these Bicycle Plan policy Goals, Objectives, and Actions would have no foreseeable cumulatively considerable direct or indirect significant impact on the physical environment in terms of pedestrian access, safety, and circulation. Therefore, no mitigation measures are required.

Bicycle

The implementation of these Bicycle Plan policy Goals, Objectives, and Actions would have no potentially cumulatively considerable significant impact on the physical environment in terms of bicycle access, safety, and circulation. Therefore, no mitigation measures are required.

Loading

The implementation of these Bicycle Plan policy Goals, Objectives, and Actions would have no direct impact on the physical environment. However, implementation of these Actions could have the foreseeable indirect impact of allowing implementation of physical changes and improvements, including those analyzed elsewhere in Subsections V.A.3, V.A.4, and V.A.5 of this document. Therefore, the indirect impact of implementation of these Bicycle Plan policy Goals, Objectives, and Actions includes all potential impacts on loading that are identified and enumerated within these other subsections as being potentially cumulatively significant and unavoidable.

MITIGATION MEASURES

Subject to the mitigation measures provided in Subsections V.A.3 and V.A.5, the program-level Actions described and analyzed in this section would not, in themselves, contribute to a cumulatively significant impact to traffic, transit, parking, pedestrian or bicycle circulation, or loading facilities. Therefore, no additional mitigation measures are required for these program-level Actions.

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Action 1.1 Implement improvements to the bicycle route network and within some street rights-of-way.	PSUI	NSI	PSUI	NSI	NSI	PSUI
Action 1.2 Complete design and engineering for proposed long-term improvements.	PSUI	NSI	PSUI	NSI	NSI	PSUI
Action 1.3 Maintain GIS database of San Francisco bicycle route network.	NSI	NSI	NSI	NSI	NSI	NSI
Action 1.4 Work with other San Francisco agencies to implement Transit First Policy	PSUI	NSI	PSUI	NSI	NSI	PSUI
Action 1.5 Conduct pre/post study of bicycles in exclusive bus/taxi lanes	NSI	NSI	NSI	NSI	NSI	NSI
Action 1.6 Review multilane streets for extra capacity to explore possible removal of travel lanes for bicycle lanes or other bicycle friendly treatments.	NSI	NSI	NSI	NSI	NSI	NSI
Action 1.7 Work with Caltrans to analyze and add bicycle facilities where appropriate on state highways in San Francisco.	NSI	NSI	NSI	NSI	NSI	NSI
Action 1.8 Work with agencies to revise LOS standards and methodologies to better respond to the multi-modal nature of San Francisco's transportation network.	NSI	NSI	NSI	NSI	NSI	NSI

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Action 1.9 Define "bicycle boulevards," and develop criteria for identifying streets which could be designated as bicycle boulevards.	NSI	NSI	NSI	NSI	NSI	NSI
Action 1.10 Review international best practices and implement innovative design treatments along the bicycle network with appropriate analysis.	NSI	NSI	NSI	NSI	NSI	NSI
Action 1.11 Prioritize installation of shared roadway bicycle markings where safety could be improved.	NSI	NSI	NSI	NSI	NSI	NSI
Action 1.12 Work with DPW to develop and enforce standards for street excavation work by contractors.	NSI	NSI	NSI	NSI	NSI	NSI
Action 1.13 Work with San Francisco agencies to create inventory of bicycle and mixed-use pathways.	NSI	NSI	NSI	NSI	NSI	NSI
Action 1.14 Work with DPW and RPD to maintain a regular sweeping schedule of bicycle routes and off-street paths.	NSI	NSI	NSI	NSI	NSI	NSI
Action 1.15 Work with the DPW to prioritize streets on the bicycle route network within the DPW's street resurfacing program.	NSI	NSI	NSI	NSI	NSI	NSI
Action 1.16 Work with the DPW to inspect streets on the bicycle route network on a yearly basis.	NSI	NSI	NSI	NSI	NSI	NSI

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Action 1.17 Create an inventory of locations along the bicycle network that intersect or parallel railroad track crossings and identify ways to mitigate the impact.	NSI	NSI	NSI	NSI	NSI	NSI
Additional Action Implement bicycle loop detectors, as appropriate, to improve intersection operations and to facilitate bicycle traffic through intersections where traffic volumes are low.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.1 Work with the Planning Department to consolidate *Planning Code* Sections 155.1-155.5 to provide clearer regulation, guidance, and exemptions related to bicycle parking.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.2 Work with the Planning Department to modify *Planning Code* requirements for bicycle parking so that they are less dependent on automobile parking provisions.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.3 Work with the Planning Department to amend the *Planning Code* to increase required bicycle parking for new residential developments and base this requirement on a proportion of dwelling units.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.4 Work with San Francisco agencies to ensure all garage bicycle parking is secure, well monitored, and well advertised at garage entrances and other appropriate locations.	NSI	NSI	NSI	NSI	NSI	NSI

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Action 2.5 Work with the Planning Department to increase monitoring and enforcement of bicycle parking provisions in the *Planning Code*, especially when issuing building permits.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.6 Hold meetings between SFMT A and Planning Department staff to update citywide bicycle parking compliance status and review bicycle parking information posted on the SFMT A website.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.7 Conduct the SFMTA's bicycle parking training for new Planning Department personnel as needed.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.8 Ensure all City leases are negotiated to include required level of bicycle parking by cooperative efforts of the City Real Estate Department and SFMTA.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.9 Pursue citywide policy to secure bicycle parking at all City buildings subject to safety regulations and available space, by cooperative efforts of the City Real Estate Department, Planning Department, and the SFMTA.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.10 Work with the Planning Department to amend the *Planning Code* to lower the number of automobile parking required in buildings where Class I bicycle parking is provided.	NSI	NSI	NSI	NSI	NSI	NSI

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Action 2.11 Work with the Planning Department to amend the *Planning* Code to require bicycle parking in each individual building of large, multiple-building developments.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.12 Work with the Planning Department to amend the *Planning* Code to require building owners to allow tenants to bring their bicycles into buildings unless Class I bicycle parking is provided.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.13 Work with San Francisco agencies to prepare additional guidelines for placement and design of bicycle parking within City rights-of-way, and bicycle parking, and "sleeve" ring racks on parking meters.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.14 Develop and maintain SFMTA bicycle campaign to provide relevant bicycle parking information such as garage locations with bicycle parking and locker availability.	NSI	NSI	NSI	NSI	NSI	NSI
Action 2.15 Work with San Francisco Police Department (SFPD) to make bicycle theft investigation a higher priority.	NSI	NSI	NSI	NSI	NSI	NSI
Action 3.1 Create an SFMTA policy that explicitly permits folded bicycles on all SFMTA transit vehicles	NSI	NSI	NSI	NSI	NSI	NSI
Action 3.2 Develop pilot program to provide bicycle access on SFMTA light rail vehicles, for potential future implementation.	NSI	NSI	NSI	NSI	NSI	NSI

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Action 3.3 Update the SFMTA's bicycle accessibility guidelines and widely distribute and publicize these guidelines.	NSI	NSI	NSI	NSI	NSI	NSI
Action 3.4 Create an SFMTA policy that allows bicyclists with disabled bicycles to bring them aboard SFMTA transit vehicles at the discretion of the vehicle operator when the vehicle either does not have racks or the racks are full.	NSI	NSI	NSI	NSI	NSI	NSI
Action 3.5 Install racks on all SFMTA buses, and work with other transit buses operating in SF to install bicycle racks on their bus fleets.	NSI	NSI	NSI	NSI	NSI	NSI
Action 3.6 Work with (BART) to analyze existing bicycle policies and create a trial program for non-folding bicycle access during Transbay peak period trains.	NSI	NSI	NSI	NSI	NSI	NSI
Action 3.7 Work with Caltrain to expand bicycle access to San Francisco stations by promoting bicycling to stations and providing secure bicycle parking at station areas.	NSI	NSI	NSI	NSI	NSI	NSI
Action 3.8 Ensure SF transit stations, including the new Transbay Terminal, provide barrier-free bicycle access and parking facilities. Work with California High-Speed Rail Authority to ensure bicycles are accommodated on its long-distance trains.	NSI	NSI	NSI	NSI	NSI	NSI

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Action 3.9 Work with San Francisco Bay Area transit operators and the (MTC) to develop, implement, maintain, expand, and enforce improved inter-modal bicycle access.	NSI	NSI	NSI	NSI	NSI	NSI
Action 3.10 Promote bicycle parking stations at major hubs that provide secure, monitored parking, commuter info, and maintenance services.	NSI	NSI	NSI	NSI	NSI	NSI
Action 3.11 Work with Caltrans and Golden Gate Bridge, Highway and Transportation District (GGBHTD) to provide improved bicycle access to all San Francisco bridges wherever feasible and appropriate.	NSI	NSI	NSI	NSI	NSI	NSI
Action 4.1 Provide SFMTA bicycle safety information to diverse age, income, and ethnic populations.	NSI	NSI	NSI	NSI	NSI	NSI
Action 4.2 Provide bicycle safety information in languages widely used within San Francisco, such as Chinese and Spanish.	NSI	NSI	NSI	NSI	NSI	NSI
Action 4.3 Partner with agencies to distribute bicycle safety education materials in mass mailings.	NSI	NSI	NSI	NSI	NSI	NSI
Action 4.4 Work with the SFPD to create a bicycle traffic school curriculum in lieu of pecuniary penalties for traffic violators.	NSI	NSI	NSI	NSI	NSI	NSI

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Action 4.5 Increase SFMTA participation in Bike to Work Day by providing resources and materials.	NSI	NSI	NSI	NSI	NSI	NSI
Action 4.6 Implement new outreach campaigns for improved bicycle facilities.	NSI	NSI	NSI	NSI	NSI	NSI
Action 4.7 Develop SFMTA bicycle safety classes for City employees.	NSI	NSI	NSI	NSI	NSI	NSI
Action 4.8 Develop an SFMTA bicycle safety workshop for transit vehicle operators and other large fleet vehicle operators.	NSI	NSI	NSI	NSI	NSI	NSI
Action 4.9 Develop a bicycle safety curricula for use in the (SFUSD) and San Francisco public colleges and to be shared with other schools.	NSI	NSI	NSI	NSI	NSI	NSI
Action 4.10 Work with the SFUSD to promote a transportation curriculum instead of driver's education at high schools that provides instruction on all modes of transportation.	NSI	NSI	NSI	NSI	NSI	NSI
Action 4.11 Periodically evaluate and adjust, the SFMTA's bicycle safety program.	NSI	NSI	NSI	NSI	NSI	NSI
Action 5.1 Work with the SFPD to place a high priority on enforcement of both bicyclist and motorist violations that most frequently cause injuries and fatalities.	NSI	NSI	NSI	NSI	NSI	NSI

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Action 5.2 Work with SFPD to develop a "fix-it ticket" program for bicycle equipment violations.	NSI	NSI	NSI	NSI	NSI	NSI
Action 5.3 Work with SFPD to develop a method to systematically share non-collision bicyclist citations with the" SFMTA.	NSI	NSI	NSI	NSI	NSI	NSI
Action 5.4 Work with SFPD and Superior Court of California to develop and implement a bicycle traffic school program as an option for those cited for moving violations.	NSI	NSI	NSI	NSI	NSI	NSI
Action 5.5 Support efforts to change *California Vehicle Code (CVC)* Section 21754 (passing on the right) so that it applies to bicycles.	NSI	NSI	NSI	NSI	NSI	NSI
Action 5.6 Increase parking enforcement and fines for violations involving vehicles parking or double parking in bicycle lanes.	NSI	NSI	NSI	NSI	NSI	NSI
Action 5.7 Post "no stopping in bike lane" signs along bicycle lanes where double parking violations occur, and work with the SFPD to increase enforcement of these violations.	NSI	NSI	NSI	NSI	NSI	NSI
Actions 5.8 Work with the SFPD to increase the enforcement of the prohibition of operating motorcycles in bicycle lanes.	NSI	NSI	NSI	NSI	NSI	NSI

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Actions 5.9 Develop an SFMTA bicycle safety curriculum for all SFPD police officers that focuses on the rights and responsibilities of bicyclists and techniques required for safe and legal sharing of the roadway.	NSI	NSI	NSI	NSI	NSI	NSI
Action 5.10 Work with the SFPD to increase bicycle-mounted enforcement patrols.	NSI	NSI	NSI	NSI	NSI	NSI
Action 5.11 Work with SFPD to develop a system for hospitals, emergency rooms, and clinics to report all instances of bicyclist injuries to the SFPD and to the SFMTA.	NSI	NSI	NSI	NSI	NSI	NSI
Action 5.12 Inform bicyclists that they are legally entitled to fie a collision report when one is not initiated by the police.	NSI	NSI	NSI	NSI	NSI	NSI
Action 5.13 Develop a standardized procedure for reporting bicycle-related incidents with transit vehicles and ensure that this information is readily available to appropriate City staff.	NSI	NSI	NSI	NSI	NSI	NSI
Action 6.1 Promote the benefits of bicycling to diverse age, income, and ethnic populations.	NSI	NSI	NSI	NSI	NSI	NSI
Action 6.2 Work with the Dept SF the Environment (SF Environment), the Department of Public Health (DPH), and other City agencies to formalize bicycle education and promotion responsibilities and develop partnership agreements with the SFMTA.	NSI	NSI	NSI	NSI	NSI	NSI

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Action 6.3 Work with all City agencies to expand bicycle promotion and incentive programs for City employees to serve as a model program for other San Francisco employers.	NSI	NSI	NSI	NSI	NSI	NSI
Action 6.4 Include, where appropriate, telephone and web-based contact information for the MTC "511" program on relevant SFMTA materials	NSI	NSI	NSI	NSI	NSI	NSI
Action 6.5 Encourage and promote bicycle-related businesses within San Francisco.	NSI	NSI	NSI	NSI	NSI	NSI
Action 6.6 Conduct a feasibility study for a public bicycle sharing program, and if feasible, develop a plan for potential future implementation including any required environmental review.	NSI	NSI	NSI	NSI	NSI	NSI
Action 7.1 Incorporate this Bicycle Plan in whole by reference into the *General Plan* and amend sections of the *General Plan* that are relevant to bicycling, including the Transportation Element and relevant Area Plans, according to the goals of this Bicycle Plan.	PSUI	NSI	PSUI	NSI	NSI	PSUI
Action 7.2 Ensure adequate and appropriate environmental review under the California Environmental Quality Act for the Bicycle Plan and all discretionary actions under the Bicycle Plan that may have a direct or indirect physical environmental impact.	NSI	NSI	NSI	NSI	NSI	NSI

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Action 7.3 Work with the Planning Department to coordinate updates to the *General Plan* as subsequent amendments and updates to the Bicycle Plan and bicycle route network occur.	PSUI	NSI	PSUI	NSI	NSI	PSUI
Action 7.4 Work with the Planning Department to ensure that all current and proposed Area Plans' objectives and policies on balance are consistent with the goals of the San Francisco Bicycle Plan. Whenever updates or revisions are considered to existing Area Plans, especially those that do not now contain sections on bicycling, these Area Plans should include sections on bicycling consistent with the goals of the Bicycle Plan.	PSUI	NSI	PSUI	NSI	NSI	PSUI
Action 7.5 Work with the Planning Department as transportation impact guidelines are updated to ensure impacts of new projects consider bicycles.	NSI	NSI	NSI	NSI	NSI	NSI
Action 7.6 When City transportation or development studies include non-automated traffic counts, work with the responsible San Francisco agencies to collect: bicycle counts where appropriate; an inventory of existing bicycle parking within a two-block radius of the study site; and the project's potential impacts on any existing or proposed bikeways.	NSI	NSI	NSI	NSI	NSI	NSI
Action 7.7 Work with public agencies with jurisdictions or rights-of-way within San Francisco to ensure coordination of any proposed bicycle facilities.	NSI	NSI	NSI	NSI	NSI	NSI

MATRIX 1.1
SUMMARY OF PROGRAM-LEVEL IMPACTS

KEY: NSI = No Significant Impact; PSUI = Potentially Significant and Unavoidable Impact

	Thresholds of Significance					
Actions	**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Additional Action SFMTA would conduct a study to determine the feasibility of permitting bicycles on sidewalks in limited circumstances on a case-by-case basis.	NSI	NSI	NSI	NSI	NSI	NSI
Action 8.1 Work with appropriate agencies to identify funding to assist in achieving the goals and objectives set forth in this Bicycle Plan.	PSUI	NSI	PSUI	NSI	NSI	PSUI

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3. PROJECT–LEVEL ANALYSIS

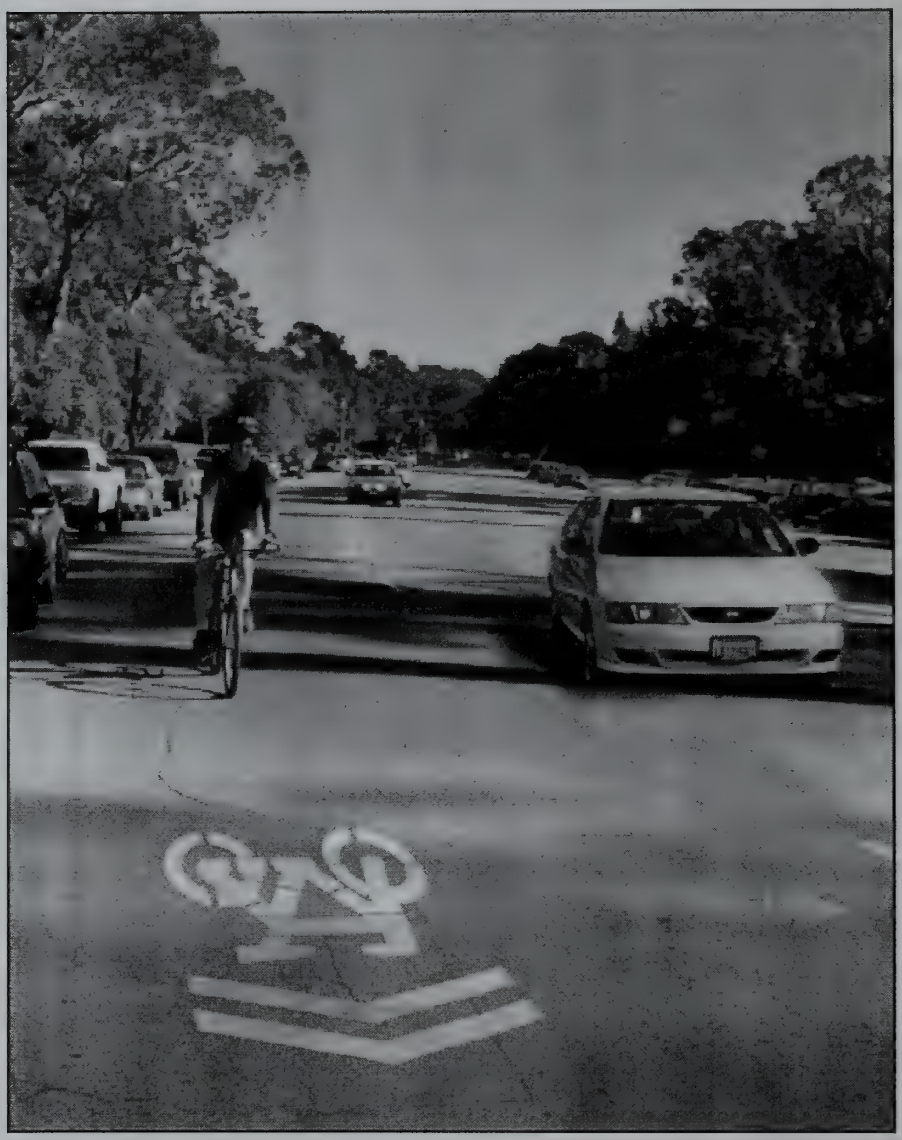
OVERVIEW

This section presents the project-level analysis for the 60 near-term bicycle route network improvement projects (near-term improvements) identified in the San Francisco Bicycle Plan. The near-term improvements would address gaps and deficiencies within the existing bicycle route network. These near-term improvements include bicycle projects that were originally listed as priority projects in a citywide bicycle planning process; projects that were already funded, but not implemented prior to the 2006 Superior Court of California injunction which prevented implementation of these projects; and projects that have recently been designed. These 60 near-term improvements have complete and specific project designs.

The proposed near-term improvements consist of design elements intended to enhance safety and improve bicycle travel in the City. These elements vary from simple improvements such as pavement markings such as sharrows,[1] (see Figure V.A.3-1, p. V.A.3-2) to more complex treatments, like the installation of bicycle lanes, pathways or other bicycle facilities. The physical modifications proposed by these near-term improvements and addressed by the project-level traffic impact analysis, may include, but are not limited to, the following design elements to improve bicycle travel: signage changes; pavement marking such as the installation of colored pavement materials and the installation of sharrows; modifications to bus zones and parking configurations such as changes to the location, configuration, and number of metered or unmetered parking spaces and loading zones; changes to the locations and configurations of curbs, sidewalks and medians (including both planted and unplanted), including widening of roadways; reconfiguration of intersections to improve bicycle crossings, including installation of bicycle traffic signals; installation of bicycle lanes, pathways or other bicycle facilities, potentially in conjunction with the narrowing of traffic lanes; the designation of shared bicycle and transit lanes; establishment of part-time bus zones; addition of parking spaces; and the reconfiguration of sidewalks to accommodate new bicycle lanes.

[1] Sharrows are traffic control devices that consist of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see: http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/CAMUTCD-Part9.pdf.

FIGURE V.A.3-1: A SHARROW



As alterations to a city-wide transportation network, the analysis of these near-term improvements must also address the combined impacts of multiple projects within the same vicinity. For this reason, the near-term improvements have been grouped by geographic proximity into eight clusters in order to evaluate and understand the potential combined transportation-related impacts related to the implementation of projects in close proximity to one another.

Most of the specific near-term improvements include two potential alternatives for consideration by decision makers. The design options chosen for analysis for each project represent a range in terms of their environmental effects, namely, one alternative that offers an option that would affect one or more modes (e.g., removal of mixed traffic lanes and/or greatest

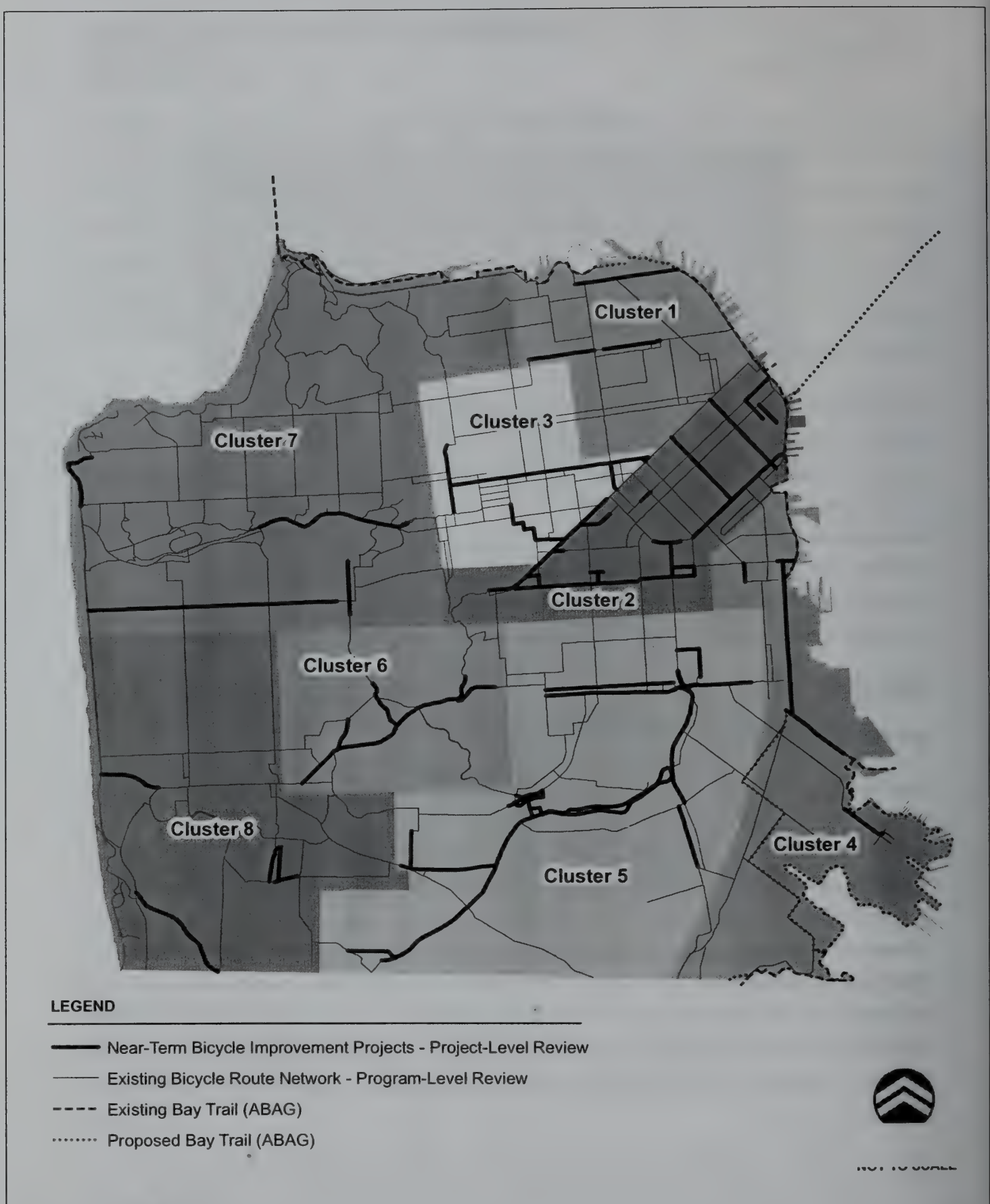
potential to impede transit operations); and another alternative that would be less likely to impact other modes (e.g., parking removals instead of traffic lane removals, changes to sidewalks, installation of sharrows, or alternate routing of bicycle routes). As such, these options now constitute a suite of design elements from which decision-makers may choose in order to address the network deficiencies at a specific location. With certification of the San Francisco Bicycle Plan Project EIR, no further environmental analysis would be required to implement any such design elements that is within the range of design elements studied as part of this environmental review process.

The project-level transportation analysis for the 60 near-term improvements must consider the potential impacts of each project, including the variations encompassed by the alternative options being considered. The analysis of the near-term improvements also addresses the combined impacts of multiple projects within the same vicinity. As stated above, the near-term improvements have been grouped by geographic proximity into eight clusters in order to evaluate and understand the combined potential transportation-related impacts related to implementation of the near-term improvements in close proximity to one another. Clusters 1 through 8 are shown in Figure V.A.3-2, p. V.A.3-4.

SETTING

STUDY INTERSECTIONS

The San Francisco Bicycle Plan Project EIR includes 60 near-term improvements for which detailed designs have been developed by the San Francisco Municipal Transportation Agency (SFMTA). The impact discussion includes traffic, transit, parking, pedestrian, bicycle, and loading analysis for the City's transportation system. For these near-term bicycle improvement projects, 61 study intersections were identified by the San Francisco Major Environmental Analysis (MEA) Division of the San Francisco Planning Department (Planning Department) and SFMTA as the intersections most likely to be affected by the near-term improvements. All of the intersections were analyzed for the PM peak hour impacts. Some of these intersections were analyzed for the AM peak hour impacts as well. The AM peak hour intersections are presented in Table V.0-1; p. V.A.3-5, the PM peak hour intersections are presented in Table V.0-2, p. V.A.3-6.



SOURCE: Wilbur Smith and Associates, 2008.

FIGURE V.A.3-2: PROJECT LEVEL ANALYSIS STUDY CLUSTERS

TABLE V.0-1
ALL AM INTERSECTIONS STUDIED

No.	Intersection	Cluster	No.	Intersection	Cluster
23	Bayshore Boulevard/Jerrold Avenue/US 101 off-ramp	5	41	Phelan Avenue/Geneva Avenue/Ocean Avenue	5
28	Mission Street/Cesar Chavez Street	5	52	Church Street/Market Street/14th Street	2
37	Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive	6	59	Masonic Avenue/Turk Street	3
40	Octavia Boulevard/Market Street	2	60	Masonic Avenue/Fulton Street	3

Source: Wilbur Smith Associates, October 2008.

Selection of AM Study Intersections

The selection procedure for the AM study intersections is described below.

The AM study intersections were generally selected from the list of the PM study intersections based on the following criteria:

a) Intersections where the LOS or Average Delay was worse in the AM than it was in the PM under existing conditions.

b) Intersections where the AM LOS was D or below (E or F) under existing conditions.

c) For all of the intersections identified for consideration, a comparison was made between the AM critical movements and the PM critical movements. If they were the same and the condition for the AM was generally better than the PM, defined as less congested and less delay, then the intersection was excluded.

d) For all the intersections identified for consideration, the volumes of critical movements, the V/C ratio and the change in the V/C ratio when capacity reduction was proposed, the V/C ratio for protected left turns when capacity reduction was proposed in a through lane, and the condition of the left turn movement, were all considered. If these criteria for the AM were found to be generally the same or better than the PM, then the intersection was excluded.

TABLE V.0-2
STUDY INTERSECTIONS – PM PEAK HOUR

No.	Intersection Name	Cluster	No.	Intersection Name	Cluster
1	2nd Street/Bryant Street	2	32	Pennsylvania Avenue/Cesar Chavez Street/I-280 off-ramp	5
2	2nd Street/Harrison Street	2	33	Putnam Street/I-280 off-ramp/ Alemany Boulevard	5
3	2nd Street/Folsom Street	2	34	Alemany Boulevard/Ocean Avenue	5
4	2nd Street/Howard Street	2	35	Alemany Boulevard/Sickles Avenue	5
5	2nd Street/Brannan Street	2	36	Justin Drive/Congdon Street/Alemany Boulevard	5
6	2nd Street/Townsend Street	2	37	Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive	6
7	5th Street/Bryant Street	2	38	Burnett Avenue/Clipper Street/Portola Drive	6
8	5th Street/Harrison Street	2	39	Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue	6
9	5th Street/Brannan Street	2	40	Octavia Boulevard/Market Street	2
10	5th Street/Mission Street	2	41	Phelan Avenue/Geneva Avenue/Ocean Avenue	5
11	5th Street/Market Street	2	42	San Jose Avenue/Ocean Avenue	5
12	5th Street/Howard Street	2	43	Masonic Avenue/Fell Street	3
13	5th Street/Folsom Street	2	44	Masonic Avenue/Geary Boulevard	3
14	7th Street/Townsend Street	2	45	Van Ness Avenue/North Point Street	1
15	4th Street/Townsend Street	2	46	Columbus Avenue/North Point Street	1
16	3rd Street/Townsend Street	2	47	The Embarcadero/North Point Street	1
17	6th Street /Brannan Street	2	48	Fremont Street/Howard Street	2
18	4th Street/Harrison Street	2	49	Illinois Street/Cesar Chavez Street	4
19	Potrero Avenue/23rd Street	5	50	Illinois Street/Mariposa Street/Terry Francois Street	4
20	Potrero Avenue/17th Street	2	51	Polk Street/North Point Street	1
21	10th Street/Brannan Street/Potrero Avenue/Division Street	2	52	Church Street/Market Street/14th Street	2
22	Potrero Avenue/16th Street	2	53	Van Ness Avenue/Broadway Street	1
23	Bayshore Boulevard/Jerrold Avenue/US 101 off-ramp	5	54	11th Street/Bryant Street/Division Street	2

TABLE V.0-2 (CONTINUED)
STUDY INTERSECTIONS – PM PEAK HOUR

No.	Intersection Name	Cluster	No.	Intersection Name	Cluster
24	Bayshore Boulevard/Oakdale Avenue	5	55	7th Avenue/Kirkham Street	7
25	Bayshore Boulevard/Cortland Avenue	5	56	48th Avenue/Point Lobos Avenue	7
26	Bayshore Boulevard/Alemany Boulevard/Industrial Street	5	57	Evelyn Street/Portola Avenue	6
27	Guerrero Street/Cesar Chavez Street	5	58	Fowler Street/Portola Avenue	6
28	Mission Street/Cesar Chavez Street	5	59	Masonic Avenue/Turk Street	3
29	South Van Ness Avenue/Cesar Chavez Street	5	60	Masonic Avenue/Fulton Street	3
30	Bryant Street/Cesar Chavez Street	5	61	7th Avenue/Lincoln Way	7
31	Evans Avenue/Cesar Chavez Street	5			

Source: Wilbur Smith Associates, October 2008.

e) Whenever application of the above criteria was not conclusive, the intersection was included for analysis.

f) One intersection was included for analysis based on its unique conditions (Intersection 6 Market and Octavia)

The eight AM study intersections selected on the basis of the selection criteria discussed above are presented in Table V.0-1, p. V.A.3-5.

Selection of PM Study Intersections

The PM study intersections were selected based on the following criteria:

- Generally all intersections for the proposed bicycle routes where capacity reduction (lane elimination in one or both directions) was proposed were originally considered for analysis purposes.
- If the lane reduction was where visible additional capacity was available, the specific intersections were excluded for the purpose of analysis.

- The remainder of all intersections where the existing volumes were high or congested was included in the analysis.
- Additional intersections were included if there was a potential conflict with Muni routes.
- Additional intersections were included if unique sensitivity was identified.
- Three more intersections were subsequently added based on refinements to the proposed options for two projects.

Table V.0-2, p. V.A.3-6, lists the 61 study intersections that were identified for analysis during the PM peak hour based on the above selection criteria.

CORRIDOR ANALYSIS

In addition to the 61 study intersections indentified earlier, several study corridors were defined for the assessment of transit, parking and loading impacts resulting from the near-term improvements. Twelve transit study corridors and ten transit spot study locations were evaluated to identify the projects' potential to impact transit including identification of potential conflicts between transit vehicles and bicyclists. These corridors and spot study locations are shown in Table V.0-3 and Table V.0-4, respectively, on p. V.A.3-9.

In addition, ten parking and loading corridors were identified where parking and loading changes were proposed. These are shown in Table V.0-5, p. V.A.3-10. The potential for greater conflicts due to effects being intensified between modes in these corridors is reflected in the more detailed impact analyses for specific near-term improvements, whenever applicable.

Finally, assessment of pedestrian impacts focused on locations where sidewalks would be narrowed by the near-term improvements or where conflicts between pedestrians and bicycles could potentially increase as a result of the implementation of bicycle projects. This analysis was included as part of the analysis for each near-term improvement.

TABLE V.0-3
TRANSIT STUDY CORRIDORS

No.	Corridor Name	Limits	Cluster
1	North Point Street	Van Ness Avenue to The Embarcadero	1
2	2nd Street	Market Street to Townsend Street	2
3	Townsend Street	8th Street to The Embarcadero	2
4	5th Street	Market Street to Townsend Street	2
5	Bayshore Boulevard	César Chávez Street to Silver Avenue	5
6	César Chávez Street	Bryant Street to Valencia Street	5
7	Portola Drive	Corbett Avenue to Junipero Serra Boulevard	6
8	Laguna Honda Boulevard/7th Avenue	Portola Drive to Lincoln Way	6
9	Phelan Avenue	Judson Avenue to Ocean Avenue	5
10	Ocean Avenue	Lee Street to Alemany Boulevard	5
11	McAllister Street	Market Street to Central Street	3
12	Masonic Avenue	Fell Street to Geary Boulevard	3

Source: Wilbur Smith Associates, October 2008.

TABLE V.0-4
TRANSIT SPOT STUDY LOCATIONS

No.	Transit Spot Location	Limits	Cluster
1	Polk Street	Market Street to Grove Street	1
2	Howard Street	The Embarcadero to Fremont Street	2
3	Innes Street	Evans Avenue to Donahue Street	4
4	Alemany Boulevard.	Putnam Street to Ellsworth Street	5
5	Alemany Boulevard/Rousseau Street/Still Street/ Bosworth Street	Alemany Boulevard. to Diamond Street	5
6	Sloat Boulevard WB	37th Avenue to Skyline Boulevard.	8
7	Clipper Street	Portola Drive to Grand View Avenue	6
8	San Bruno Avenue	Silver Avenue to Paul Street	5
9	Division Street	11th Street to Potrero Avenue	2
10	Market Street	Van Ness Avenue to Valencia Street	2

Source: Wilbur Smith Associates, October 2008.

TABLE V.0-5
PARKING AND LOADING CORRIDORS

No.	Corridor Name	Limits	Cluster
1	Glen Park Area	a) San Jose Avenue and Alemany Boulevard. b) San Jose Avenue and Monterey Boulevard.	5
2	Illinois Street	16th Street to Islais Creek	4
3	2nd Street	Market Street to King Street	2
4	5th Street	Market Street to Townsend Street	2
5	Townsend Street	The Embarcadero to 8th Street	2
6	César Chávez Street /26th Street	US 101 to Sanchez Street	5
7	César Chávez Street	US 101 to I-280	5
8	Portola Drive	O'Shaughnessy Boulevard. to Sloat Boulevard.	6
9	17th Street Corridor	Corbett Avenue to Kansas Street	2
10	Masonic Avenue	Fell Street to Geary Boulevard	3
11	Holloway Avenue	Junipero Serra Boulevard. to Varela Street	8
12	Market Street	Octavia Boulevard to 17th Street	2
13	Polk Street	Market Street to McAllister Street	1

Source: Wilbur Smith Associates, October 2008.

TRANSIT STUDY CORRIDORS AND SPOT STUDY LOCATIONS

Transit study corridors and transit spot study locations were selected based on a review of the 60 proposed near-term bicycle route network improvement projects (near-term improvements) that overlapped with existing transit service. Near-term improvements that included design options that would remove travel lanes along transit routes or would otherwise potentially cause delays to transit were selected for further review. Additionally, near-term improvements located on streets with known high volumes of bicycles and high frequencies of transit service were selected for further review of potential conflicts between bicycle and transit movements. For those near-term improvements selected for further review, the design options were examined for their potential to impact transit operations. Near-term improvements with the greatest potential to impact transit operations along several blocks were selected as transit study corridors. Near-term improvements with the greatest potential to impact transit operations in localized areas (specific intersections or short street segments) were selected as transit spot study locations. Selected corridors and spot study locations are shown in Table V.0-3 and Table V.0-4, respectively, on p. V.A.3-99.

Parking and Loading Study Locations

Parking and loading study corridors were selected based on a review of the 60 proposed near-term bicycle route network improvement projects (near-term improvements). Those near-term improvements that included design options that would remove substantial amounts of on-street parking or loading spaces were selected for further review. Additionally, near-term improvements located on streets with known frequent loading activities were selected for further review. For those near-term improvements selected for further review, existing parking supply and occupancy in the area was reviewed, and the design options were examined for potential to impact existing loading activities. Those near-term improvements with the greatest potential to impact parking occupancy in the vicinity of the near-term improvement or to impact existing loading activities were selected as study corridors, as shown in Table V.0-5, p. V.A.3-10.

EXISTING PLUS PROJECT METHODS OF ANALYSIS

Two baseline alternatives were developed and analyzed for each project: one alternative that clusters projects more likely to adversely affect one or more modes (such as removal of traffic lanes); and another alternative which groups projects less likely to affect other modes (such as parking removals, changes to sidewalks or alternate routing of bicycle routes). This approach provided coverage of a wide variety of alternatives and the extent of impacts for each so that decision makers could make choices among options based on the full disclosure of likely impacts on all modes of transportation.

EVALUATION OF SCENARIOS

The analyses of intersections and corridors included evaluations of four scenarios, namely:

1. *Existing Conditions*: This scenario refers to baseline conditions observed in the field for the Base Year.

2. *Existing plus Project Conditions with Alternatives*: This scenario refers to baseline conditions with the proposed bicycle project implementation. Project implementation may include, but is not limited to simple improvements such as pavement marking (sharrows) to more complex treatments, like the installation of bicycle lanes, pathways or other bicycle facilities, including in conjunction with the narrowing or widening of a travel lane, removal of a travel lane, removal of on-street parking, and/or changes in sidewalk width.

3. *2025 Cumulative Conditions*: This scenario refers to future conditions without the implementation of the proposed project. This scenario includes background growth in traffic as well as implementation of any approved projects but excludes the proposed project.

4. *2025 Cumulative Conditions with Alternatives*: This scenario refers to future conditions with the implementation of the proposed project.

Two baseline and future alternatives with the project were developed and fully analyzed: one alternative which clusters projects more likely to adversely affect one or more modes (such as removal of traffic lanes) and another alternative which groups projects less likely to affect other modes (such as parking removals, changes to sidewalks or alternate routing of bicycle routes). This approach provided coverage of a wide variety of alternatives and the extent of impacts for each so that decision makers could make choices among options based on full disclosure of likely impacts on all modes of transportation.

Since the implementation of the Proposed Project would not result in any new traffic volumes being added to the roadway network, there would be no change in the intersection volume under project conditions. Hence, the intersection volumes stay constant between Existing and Existing plus Project Conditions. Similarly, there is no change in intersection volumes between 2025 Cumulative and 2025 Cumulative plus Project Conditions.

CUMULATIVE METHODS OF ANALYSIS

This section presents the analysis methodology that was used to evaluate Cumulative and Cumulative plus Project conditions, and the results of this analysis for the 60 project locations.

The Cumulative scenario refers to future (year 2025) conditions without the implementation of the proposed project. It includes background growth in traffic as well as implementation of any approved projects but excludes the proposed project.

The Cumulative plus Project scenario refers to future conditions with the implementation of the proposed project. As with the analysis of Existing plus Project conditions, it is assumed that there would be no change in intersection volumes between 2025 Cumulative and 2025 Cumulative plus Project conditions.

Development of Year 2025 Travel Demand

Future Year 2025 traffic volume forecasts were estimated based on cumulative development and growth identified by the San Francisco County Transportation Authority's (SFCTA) travel

demand forecasting model (SF-CHAMP Model). The SF-CHAMP Model is an activity based travel demand model that has been validated to represent future transportation conditions in San Francisco. The model predicts all person travel for a full day based on assumptions of growth in population, housing units, and employment, which are then allocated to different periods throughout the day, using time of day sub-models. The SF-CHAMP Model predicts future person travel by mode for auto, transit, walk and bicycle trips. The SF-CHAMP Model also provides forecasts of vehicular traffic on regional freeways, major arterials and on the study area local roadway network considering the available capacity, origin-destination demand and travel speeds when assigning the future travel demand to the roadway network.

Future 2025 intersection turning volumes were developed by applying growth factors calculated from traffic volume growth between year 2007 and year 2025 conditions obtained from the SF-CHAMP Model to actual traffic volumes collected in the field. The purpose of developing a model-based growth factor rather than using future traffic estimates obtained directly from the model was to compensate for potential errors that could exist in the model validation.

It is assumed that there would be no change in the intersection geometry of study intersections between Existing and 2025 Cumulative Conditions, e.g., the project being analyzed under Cumulative Conditions would have the same lane configuration as Existing Conditions for a particular study intersection.

Once the 2025 future volumes had been developed using the model, they were analyzed using the same methodology to determine LOS as was used for Existing Conditions. Likewise, the same methodologies were used to determine traffic diversion and transit delay for Cumulative conditions as were used for the Existing Conditions analysis.

Selection of Peak Hour for Analysis

The San Francisco Planning Department's Transportation Impact Analysis Guidelines for Environmental Review (SF Guidelines) from October 2002 state that the PM peak hour represents the time of maximum utilization of the transportation system. Hence, the traffic analysis has evaluated all 61 study intersections previously listed in Table V.0-2, p. V.A.3-6 for their operating conditions during the PM peak hour.

In addition, an AM peak hour analysis has been conducted at eight of the study intersections that typically experience heavier traffic volumes during the morning commute period and could be more adversely impacted by congestion or other factors during that period. The

intersections analyzed for the AM peak hour are shown in Table V.0-1, p. V.A.3-5. The AM peak hour analysis for those eight intersections has been conducted using the same methodology as the 61 intersections for the PM peak hour.

Intersection LOS Analysis

The operating characteristics of signalized and unsignalized intersections are described by the concept of level of service (LOS). LOS is a qualitative description of the performance of an intersection based on the average delay per vehicle. Intersection LOS ranges from LOS A, which indicates free flow or excellent conditions with short delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays.

Both signalized and unsignalized intersections were evaluated using the 2000 *Highway Capacity Manual* methodology.[2] For signalized intersections, this methodology determines the capacity for each lane group approaching the intersection. The LOS for each approach is then based on the average delay per vehicle (measured in seconds per vehicle) for the various movements within the intersection. A combined weighted average delay and LOS is presented for each signalized study intersection in the tables of this report. Detailed signalized intersection LOS calculations and individual LOS by approach are presented in Appendix C of the *San Francisco Bicycle Plan Update Transportation Impact Study*.

For unsignalized intersections, average delay and LOS operating conditions are calculated by approach (e.g., northbound) and movements (e.g., northbound left-turn), for those movements that are subject to delay. The operating conditions (LOS and delay) of unsignalized intersections are presented in the tables of this report for the worst approach (i.e., the approach with the highest average delay per vehicle). Appendix C of the *San Francisco Bicycle Plan Update Transportation Impact Study* contains the detailed calculations of the unsignalized intersection LOS analysis.

The following paragraphs detail the methodology used to assess the delay that could potentially be experienced by transit vehicles along a study corridor.

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[2] As part of the HCM methodology, adjustments are typically made to the capacity of each intersection to account for various factors that reduce the ability of the streets to accommodate vehicles (such as the downtown nature of the area, number of pedestrians, vehicle types, lane widths, grades, on-street parking and queues). These adjustments are performed to ensure that the LOS analysis results reflect the operating conditions that are observed in the field.

Measures of Delay

The total transit vehicle delay was assumed to be comprised of the three following cumulative elements:

- **Transit Travel Delay** - The transit travel delay represented the additional time experienced by a transit vehicle as it travels between stops across one or more intersections in the corridor due to congestion caused by other vehicular traffic traveling parallel or perpendicular to the transit flow.
- **Transit Reentry Delay** - The transit reentry delay represented the wait for a sufficient gap in traffic flow to allow a bus to pull back into the travel lane.
- **Transit/Bicycle Delay** - The transit/bicycle delay represented the added time caused by the interaction between bicycles and transit vehicles as buses pull in or out of the bus stops.

The three components of the total transit delay were quantified as follows:

Transit Travel Delay

The transit travel delay was quantified using traffic operations data obtained from the intersection LOS calculations performed at study intersections along the corridor. The transit travel delay reflected the approach delay at the intersection for the direction of transit travel. For those intersections within a transit corridor that had not being analyzed for LOS purposes, the travel delay was estimated using the average of the delay (for each approach) for those locations where the intersection delay was available. Average approach delay for signalized and unsignalized intersections was estimated separately. Thus, the total transit travel delay in a transit corridor was calculated as the sum of all the approach delays at those intersections where LOS calculations were available, plus the number of signalized intersections multiplied by the average approach delay for signalized intersections, plus the number of unsignalized intersections multiplied by the average approach delay for unsignalized intersections. The transit travel delay was calculated separately for each direction of transit travel (i.e., eastbound and westbound, or northbound and southbound).

In several instances study intersections operate at LOS F, with average intersection delays above 80 seconds per vehicle and volume-to-capacity (v/c) ratios higher than 1.0, which represent the upper limits of the methodology used to estimate intersection delay. As shown in Figure V.A.3-3, p. V.A.3-16 adapted from the 2000 Highway Capacity Manual (Chapter 16, exhibit 16-14), that displays the relationship between the v/c ratio and the average intersection delay at a

given intersection, the average delay increases very rapidly once a v/c value of 1.02 with an associated delay of 100 seconds is reached.

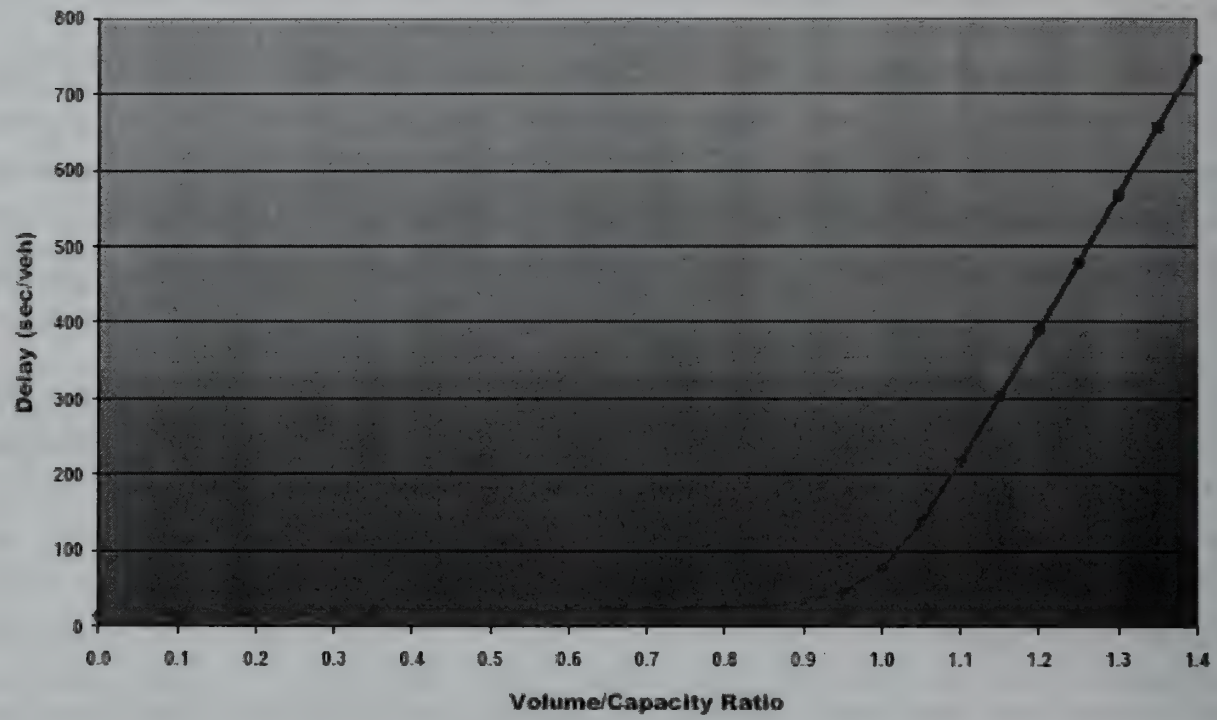


FIGURE V.A.3-3 SENSITIVITY OF VEHICLE DELAY TO VOLUME/CAPACITY RATIO

Source: 2000 Highway Capacity Manual, Chapter 16, exhibit 16-14.

As a result, the vehicle delay values estimated by the HCM methodology in those instances when the intersection operated at LOS F and had a v/c ratio well above 1.02, outside its range of application, would be unrealistically high. Thus, an adjusted methodology was used to calculate transit delays at those locations where the LOS degrades to F for the approach on which transit vehicles operate. The methodology had two components, one that was applied to each individual intersection on a transit corridor and another that was applied globally to each transit corridor.

Individual Intersection Delay Adjustments – Three possible cases occurred:

1. Intersection operated at LOS F with a calculated average delay of less than or equal to 100 seconds per vehicle – Used the average delay resulting from the application of the HCM methodology.

2. Intersection operated at LOS F with a calculated average delay greater than 100 seconds per vehicle and the v/c ratio is less than or equal to 1.02 – Assumed an additional 100

seconds of delay per vehicle to a base delay of 100 seconds. The total intersection delay in this case was 200 seconds per vehicle (100+100 = 200).

3. Intersection operated at LOS F with a calculated average delay greater than 100 seconds per vehicle and the v/c ratio was greater than 1.02 – Assumed an additional 140 seconds of delay to a base delay of 100 seconds. The total intersection delay in this case was 240 seconds per vehicle (100+140 = 240).

Corridor Delay Adjustments – Subsequently, additional adjustments were made to calculate the total delay along a transit corridor for those intersections that met any of the three cases noted above:

a. In those instances where there were consecutive intersections operating at LOS F on a transit corridor, the intersection delay calculations was increased by a factor of 10 percent per intersection. For example if there were three consecutive intersections in a transit corridor that operated at LOS F and met the criterion noted under case 3 above, the total delay for these three intersections was increased by 30 percent. In this case, the total intersection delay for these three locations became 312 seconds per vehicle (240 x 1.3 = 312).

b. In those instances where there were transit-only lanes or other meaningful transit priority treatments, the transit travel delay calculated from above was decreased. Adjustments were generally made based on individual transit lane situations and other factors such as lane configurations, external (e.g., freeway) traffic, etc. As general guidelines, at those locations where transit lanes were regularly enforced, the transit travel delay was assumed to be very small. At those locations where there was no strong transit lane enforcement, a 50 percent adjustment was made to decrease the calculated transit corridor delay.

Transit Reentry Delay

The transit reentry delay at a given transit stop was estimated using empirical data presented in the 2000 Highway Capacity Manual (HCM). Figure V.A.3-4, p. V.A.3-18, summarizes the HCM data. The total transit reentry delay in a transit corridor was calculated as the sum of the individual transit reentry delays at each bus stop. The transit reentry delay was calculated separately for each way of transit travel (i.e., eastbound and westbound, or northbound and southbound).

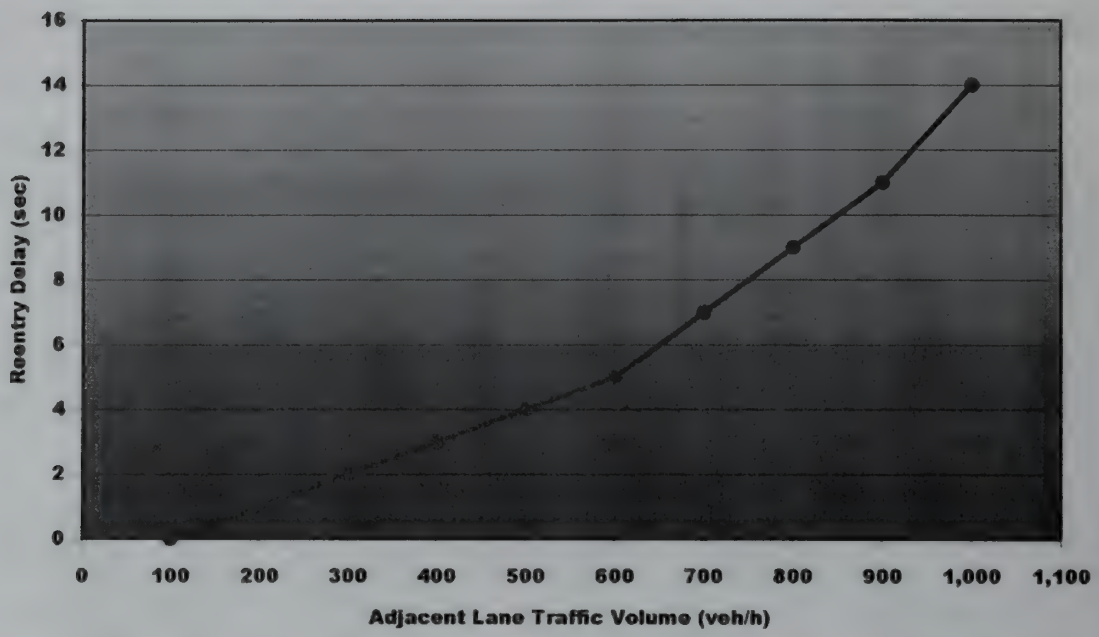


FIGURE V.A.3-4: AVERAGE BUS REENTRY DELAY INTO ADJACENT TRAFFIC

Source: 2000 Highway Capacity Manual, Chapter 27, exhibit 27-10.

Transit/Bicycle Delay

Thorough analyses of the interaction between transit vehicles and bicycles operating on a parallel path do not exist.

The methodology described in the 2000 HCM as well as similar approaches developed by the Transit Cooperative Research Program (TCRP) and the Federal Transit Administration (FTA) to estimate transit service capacity reduction factors only evaluate a) the amount of motor vehicles traveling in the lane adjacent and to the left of a bus, and b) the number of vehicles turning right in front of a bus. In either case, the presence of bicycles is not accounted for in the calculation of the capacity reduction coefficients and it is assumed not quantifiable for the purposes of this study.

Implementation

The estimated total transit vehicle delay obtained following the methodology discussed above was then reviewed for reasonableness for each transit corridor. Any additional professional judgment factors used was also documented.

The average transit travel delay for the intersections without LOS delay data was estimated based on the average delay data obtained from those intersections where LOS calculation was conducted for the direction of transit travel. Similarly, the calculation of transit reentry delay

required the estimation of traffic volumes on the adjacent travel lane using the data obtained from the intersection LOS calculations performed at study intersections along the corridor.

Transit Corridors without Study Intersections

There were some transit corridors without study intersections. No lane reductions or similarly substantial lane changes have been proposed on these corridors as part of the Bicycle Plan. Thus, the transit conditions on these corridors were evaluated qualitatively with a general description of the potential for transit delays.

EXISTING CONDITIONS

CLUSTER 1: FINANCIAL DISTRICT/NORTH BEACH AREA

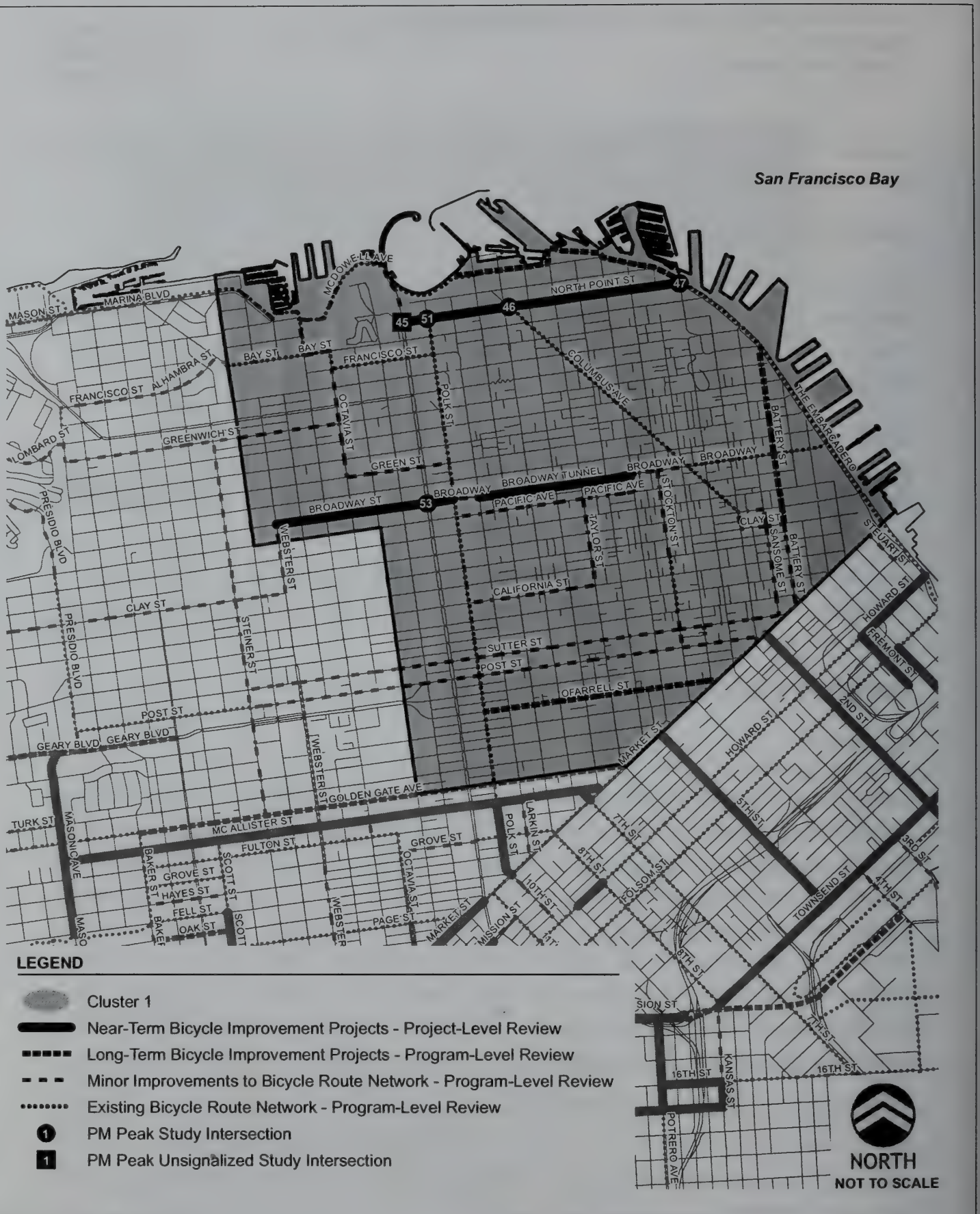
This section presents the project-level transportation impact analysis conducted for the near-term bicycle route network improvement projects within the Cluster 1 area, including a description of the projects, their location, and existing traffic, transit, parking, pedestrian, bicycle and loading conditions in the area.

PROJECT LOCATION

CLUSTER 1

Cluster 1 is located in the northeastern corner of San Francisco. It is bounded by the waterfront on the north and east and Market Street and Golden Gate Avenue to the south. The western boundary is formed by Fillmore Street, Pacific Avenue, and Gough Street. There are many notable neighborhoods contained within Cluster 1 including the Financial District, Chinatown, North Beach, and the Civic Center. Cluster 1 is popular with residents and visitors alike. It attracts a good portion of the daily commuter population coming into San Francisco's downtown from within San Francisco and other communities in the Bay Area and is the focus for visitor trips to Chinatown, Fisherman's Wharf, Union Square, and North Beach. The terrain is flat along the waterfront but becomes steep near Telegraph Hill, Russian Hill and Nob Hill.

The existing and proposed bicycle route network in Cluster 1 (see Figure V.A.3-5, p. V.A.3-20) is constrained to a large extent by the hilly terrain resulting in few routes through the heart of the area. The three near-term improvements contained in Cluster 1 represent important links to this constrained network.



SOURCE: Wilbur Smith and Associates, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.3-5: CLUSTER 1 - STUDY AREA

Three projects are included in the Cluster 1 area. Each project location is identified below.

Project 1-1: Broadway Bicycle Lanes, Polk Street to Webster Street

Project 1-2: Broadway Tunnel Signage Improvements

Projects 1-1 and 1-2 are located along the San Francisco Bay Area Regional Bikeway Network. Projects 1-1 and 1-2 are located on Broadway running east-west through the heart of the Cluster. As a segment of existing Bicycle Route 10 which provides direct access across the City from the San Francisco Bay to the Pacific Ocean near the Cliff House, Broadway (including the Broadway Tunnel) offers the flattest route from The Embarcadero to Webster Street at the western edge of Cluster 1. This is a less challenging grade for bicyclists than the alternative climb over Nob Hill.

Project 1-1 would provide bicyclists the opportunity to travel on bicycle lanes along existing Bicycle Route 10 from Polk Street (existing Bicycle Route 25, Class III with wide curb lanes) to Webster Street where they would join the existing bicycle route network.

Project 1-2 would enhance the safety of bicyclists traveling inside the Broadway Tunnel.

Project 1-3: North Point Street Bicycle Lanes, The Embarcadero to Van Ness Avenue

Project 1-3 on North Point Street is an important bicycle link for the northern portion of Cluster 1 providing east-west access along a relatively flat route providing continuity to the bicycle lanes already implemented along The Embarcadero (included in the San Francisco Bay Area Regional Bikeway Network and San Francisco Bay Trail). As part of existing Bicycle Route 2, North Point Street connects Fisherman's Wharf to Fort Mason and its popular pathway along the waterfront in the eastbound direction, and along Broadway frontage road in the westbound direction. Existing Bicycle Route 2 is included in the San Francisco Bay Area Regional Bikeway Network.

The following paragraphs describe the three near-term improvements included within the Cluster 1 area. Only one option is being proposed for the near-term improvements within Cluster 1. Detailed drawings of existing and proposed lane striping and roadway configuration changes are included in Appendix B of this document.

PROJECT DESCRIPTION

The following paragraphs describe the three near-term improvements included within the Cluster 1 area. Only one option is being proposed for the near-term improvements within Cluster 1. Detailed drawings of existing and proposed lane striping and roadway configuration changes are included in Appendix B.

PROJECT 1-1: BROADWAY BICYCLE LANES, POLK STREET TO WEBSTER STREET

Project 1-1 would involve the installation of Class II bicycle lanes in both directions on Broadway between Polk Street and Webster Street. Project 1-1 is divided into three segments.

Segment I would extend on Broadway from Polk Street to Van Ness Avenue and would install Class II bicycle lanes in both directions. The proposal for Segment I would remove approximately 14 parking spaces on the south side of the street. Also, between Larkin Street and Van Ness Avenue, this proposal would change the existing Tow-Away No Stopping 4:00 p.m.-6:00 p.m. regulation along the north side of Broadway to a Tow-Away Lane Must Turn Right 4:00 p.m.-6:00 p.m. regulation.

Segment II would extend on Broadway from Van Ness Avenue to Franklin Street and would install Class II bicycle lanes in both directions. The proposal for Segment II would remove a travel lane in the westbound direction of Broadway from approximately 100 feet west of Van Ness Avenue to Franklin Street, remove a travel lane in the eastbound direction from Franklin Street to approximately 280 feet easterly, and add a two-way center left turn lane from Franklin Street to approximately 140 feet easterly. The proposal for Segment II would remove approximately 12 parking spaces on the south side of the street.

Segment III would extend on Broadway from Franklin Street to Webster Street and would install Class II bicycle lanes in both directions. The proposal for Segment III would remove one travel lane in both directions and add a two–way center left-turn lane. No parking removal would be required along this segment.

PROJECT 1-2: BROADWAY TUNNEL SIGNAGE IMPROVEMENTS

Project 1-2 would involve the installation of an electronic bicycle warning sign with lighted beacons at the eastbound approach of the Broadway Tunnel to alert motorists when bicyclists

are present in the tunnel. Sharrows[1] would be added to the existing Class III bicycle route within the tunnel. The proposed sign would be activated by a pushbutton and a loop detector, which would be located near the intersection of Larkin Street. The proposed sign would be mounted on the Hyde Street overpass approximately 400 feet east of Larkin Street.

Project 1-2 would also involve the installation of a warning sign advising westbound bicyclists not to use the Broadway tunnel. The sign would route cyclists onto the Broadway frontage road, where sharrows would be added to the existing Class III bicycle route.

PROJECT 1-3: NORTH POINT STREET BICYCLE LANES, THE EMBARCADERO TO VAN NESS AVENUE

Project 1-3 would involve the installation of Class II bicycle lanes in both directions on North Point Street between The Embarcadero and Van Ness Avenue.

Project 1-3 would remove one westbound travel lane on North Point Street between Stockton Street and Van Ness Avenue, and remove one eastbound travel lane between Stockton Street and The Embarcadero. Project 1-3 would lengthen bus zones along North Point Street and would eliminate the bus zones in both directions at Larkin Street to minimize transit delays. Parking changes to accommodate bus zone changes would result in the net loss of one parking space.

PROJECT SETTING

This section provides a description of the existing transportation conditions along the bicycle near-term improvements in Cluster 1. Descriptions of existing roadway access, traffic, transit, parking, pedestrian, bicycle and loading conditions are included. The study intersections for Cluster 1 are shown on Figure V.A.3-5, p. V.A.3-20. Figures showing the turning movement traffic volumes and lane configurations at those study intersections for Existing Conditions may be found within the transportation impact analysis discussion for Cluster 1 within the transportation impact study. LOS calculation sheets for those study intersections and transit

[1] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/ CAMUTCD-Part 9.pdf.

delay calculation sheets for the affected transit routes may be found in the appendices of the transportation impact study.[2]

PROJECT 1-1: BROADWAY BICYCLE LANES, POLK STREET TO WEBSTER STREET

Roadways

Broadway is a four-lane east-west major arterial between Polk and Franklin Streets and a four-lane local street between Franklin and Webster Streets. The segment between Polk and Franklin Streets is part of the San Francisco Metropolitan Transportation System (MTS) Roadway Network and the Congestion Management Program (CMP) Network. Average travel speeds between Gough and Larkin Streets during the PM peak hour are approximately 10 mph (eastbound) and 11 mph (westbound).[3]

Left-turns are restricted along Broadway for both directions at Polk Street during the PM peak period (4:00 p.m. to 6:00 p.m.) and at Van Ness Avenue during the AM and PM peak periods (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.). Northbound left turns on Van Ness Avenue at Broadway are prohibited at all times.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour period. During the weekday PM peak hour, the Van Ness Avenue/Broadway intersection operates at an acceptable level of service (LOS D), with 42.8 seconds of delay. Table V.1-1, p. V.A.3-25 summarizes these results.

Transit

Muni bus line 30X overlaps Project 1-1 for the one block between Van Ness Avenue and Polk Street and provides weekday AM (inbound) and PM (outbound) peak express service between downtown and northern San Francisco (Marina, Nob Hill, North Beach and Western Addition). There are approximately twelve buses per hour in the AM peak and eight buses per hour in the PM peak. Muni bus line 30X does not stop for passenger loading or unloading within the limits of Project 1-1.

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[2] Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study*. This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File No 2007.0347E.

[3] Spring 2007 Level of Service (LOS) Monitoring, San Francisco Municipal Transportation Agency, August 2007.

TABLE V.1-1
CLUSTER 1 – PROJECT 1-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
53.	Van Ness Avenue/Broadway	Signal	42.8	D

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

Parking

There are metered parking spaces on both sides of Broadway immediately east and west of Polk Street. The other spaces along Broadway have two-hour restrictions. Broadway borders four Residential Permit Parking (RPP) zones: A and K on the north side, C and G on the south side. On-street parking is prohibited on the north side of Broadway between Larkin Street and Van Ness Avenue from 4:00 p.m. to 6:00 p.m., Monday through Friday. On-street parking in front of Saint Brigid School on the south side of Broadway between Franklin and Van Ness is designated as passenger loading/unloading zone for school drop-off activities between 7:30 a.m. and 8:00 a.m. and between 2:00 p.m. and 3:30 p.m. On-street parking occupancy is high.

Pedestrian

Pedestrian volumes are low west of Van Ness Avenue and moderate east of Van Ness Avenue. Pedestrian activity is moderate to high during school dismissal at the elementary, junior-high and high schools in the area (Saint Brigid School with its main entrance on the south side of Broadway between Franklin Street and Van Ness Avenue, and The Hamlin School and Convent of the Sacred Heart Schools on the north side of Broadway between Buchanan and Webster Streets and Webster and Fillmore Streets, respectively). Pedestrian crosswalks at intersections along Broadway at Webster, Buchanan, Franklin Streets, and Van Ness Avenue are designated school crossings striped with yellow ladder markings.

Bicycle

Bicycle volumes are low. Broadway is designated as existing Bicycle Route 10 (Class III) in both directions between Polk and Webster Streets; existing Bicycle Route 10 leaves Broadway to continue south at Webster Street on the existing bicycle route network. Existing Bicycle Route 10 intersects with existing Bicycle Route 25 (Class III with wide curb lanes) at Polk Street. Street grades on Broadway vary between Polk and Webster Streets. Going west from Polk Street,

grades are relatively flat (one percent or less) to Gough Street with a four percent grade on the block between Van Ness Avenue and Franklin Street. Slopes for the two blocks between Gough and Laguna Streets are moderate (four percent or less) with steeper slopes from Laguna to Buchanan Streets (nine percent) and from Buchanan to Webster Streets (six percent).

Loading

There are no yellow commercial freight loading spaces along this section of Broadway. This section of Broadway is mostly residential with some commercial development east of Van Ness Avenue. Loading demand is generally low. Delivery vehicles typically use on-street parking spaces although occasional double parking by these vehicles was observed along Broadway east of Van Ness Avenue.[4]

Short-term traffic congestion exists during school arrival and dismissal periods (typically between 7:30 a.m. to 8:30 a.m. and 2:30 p.m. to 3:30 p.m.) at the two elementary and elementary/high schools along Broadway located near Van Ness Avenue (Saint Brigid) and Webster Street (Hamlin School and Convent of the Sacred Heart). A portion of the eastbound parking lane between Franklin Street and Van Ness Avenue in front of Saint Brigid is designated as a passenger loading zone during the school arrival and dismissal periods.

The two westbound travel lanes on Broadway between Laguna and Webster Streets in front of Hamlin School are used by vehicles which typically move slowly in the center lane or stop in the curb lane adjacent to the on-street parking while waiting in line to pick up children. The Hamlin School does not have a designated passenger loading zone in front of the building, mid-block between Buchanan and Webster Streets. The school secures the drop-off and pick-up area by reserving the curb lane between 7:45 a.m. and 8:30 a.m. and from 3:00 p.m. to 3:45 p.m.

PROJECT 1-2: BROADWAY TUNNEL SIGNAGE IMPROVEMENTS

Roadways

This section of Broadway is a four-lane east-west major arterial with a median, and is part of the MTS Roadway Network and the CMP Network. The Broadway Tunnel is located approximately between Hyde and Mason Streets. Traffic volumes are moderate to high during the AM and PM peak periods. Average travel speeds (including stops due to traffic conditions

[4] Field surveys were conducted by CHS Consulting on Tuesday, August 21, 2007 during the midday.

and traffic signals) between Larkin and Powell Streets during the PM peak hour are approximately 32 mph (eastbound) and 31 mph (westbound).[5]

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line 30X provides weekday AM (inbound) and PM (outbound) peak express service between downtown and northern San Francisco (Marina, Nob Hill, North Beach and Western Addition) through the Broadway Tunnel. There are approximately twelve buses per hour in the AM peak and eight buses per hour in the PM peak. Muni bus line 30X does not stop for loading or unloading of passengers within the limits of Project 1-2.

Parking

On-street parking is prohibited inside the Broadway Tunnel.

Pedestrian

There are raised pedestrian walkways on both sides of the Broadway Tunnel. Pedestrian volumes are extremely low within the tunnel.

Bicycle

The Broadway Tunnel is open to bicycle traffic and is signed as a Class III bicycle route (existing Bicycle Route 210) in both directions serving as a spur to existing Bicycle Route 10. Bicyclists have been observed using the elevated sidewalks to avoid sharing the same lane with motor vehicles traveling at higher speeds. Bicycle volumes are low.[6]

As an alternative to the Broadway Tunnel, existing Bicycle Route 10 eastbound follows Pacific Avenue from Polk Street to Powell Street. Existing Bicycle Route 10 westbound uses Broadway (the roadway north of the tunnel) to Mason Street and then to Pacific Avenue. Grades on these streets over the tunnel are significant. Mason Street has a grade of 12 percent from Broadway to Pacific Avenue. On Pacific Avenue from Mason Street to Polk Street the gradients are two percent from Mason to Taylor Streets, ten percent from Taylor to Jones Streets,

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[5] Spring 2007 Level of Service (LOS) Monitoring, San Francisco Municipal Transportation Agency, August 2007.

[6] Field surveys were conducted by CHS Consulting on Tuesday, August 21, 2007 during the midday and PM peak

three percent from Jones to Leavenworth Street, seven percent from Leavenworth to Hyde Streets, eight percent from Hyde to Larkin Streets, and five percent from Larkin to Polk Streets.

Loading

Loading/unloading activities are not allowed inside the Broadway Tunnel.

PROJECT 1-3: NORTH POINT STREET BICYCLE LANES, THE EMBARCADERO TO VAN NESS AVENUE

Roadways

North Point Street between The Embarcadero and Van Ness Avenue is a three-lane east-west major arterial (two eastbound lanes and one westbound lane between The Embarcadero and Stockton Street and two westbound lanes one eastbound lane between Stockton Street and Van Ness Avenue). This segment is part of the MTS Roadway Network and the CMP Network. Traffic volumes are 200 to 600 vehicles per hour each way during the PM peak period. Average travel speeds during the PM peak hour (including stops due to traffic conditions and traffic signals) are approximately 15 mph (eastbound) and 13 mph (westbound) between Van Ness and Columbus Avenues, and 20 mph (eastbound) and 21 mph (westbound) between Columbus Avenue and The Embarcadero.[7]

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour period. During the weekday PM peak hour, all four study intersections listed below operate at an acceptable level of service (LOS C or better). Table V.1-2, p. V.A.3-29, summarizes the results.

Intersection 45: Van Ness Avenue/North Point Street

Intersection 46: Columbus Avenue/North Point Street

Intersection 47: The Embarcadero/North Point Street

Intersection 51: Polk Street/North Point Street

[7] Spring 2007 Level of Service (LOS) Monitoring, San Francisco Municipal Transportation Agency, August 2007.

Transit

Nine Muni bus lines (9X, 9BX, 10, 19, 20, 30, 39, 47, and 91 owl) and 17 Golden Gate Transit (GGT) bus lines (2, 4, 8, 18, 24, 26, 27, 38, 44, 54, 56, 58, 60, 72, 73, 74, and 76) run on some portion of North Point Street within the limits of Project 1-3.

Muni bus line 10 travels along the entire length of Project 1-3 on North Point Street between The Embarcadero and Van Ness Avenue. The remaining Muni lines provide service to only a few blocks of Project 1-3. There are Muni bus stops at most intersections. About half of the bus stops are near-side (before entering the intersection) and half are far-side (after crossing the intersection).

TABLE V.1-2
CLUSTER 1 – PROJECT 1-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
45	Van Ness Avenue/North Point Street	Three-way stop	14.4	B
46	Columbus Avenue/North Point Street	Signal	14.7	B
47	The Embarcadero/North Point Street	Signal	26.0	C
51	Polk Street/North Point Street	Signal	16.2	B

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

GGT buses operate eastbound on North Point Street for one block from Polk Street to Van Ness Avenue in the AM commute period and westbound from The Embarcadero to Van Ness Avenue during the PM commute period.

Between The Embarcadero and Columbus Avenue, there are approximately 36 Muni buses per hour each way during the AM peak period. There are approximately 87 westbound Muni and GGT buses and 27 eastbound Muni buses per hour during the PM peak period.

Between Columbus and Van Ness Avenues, there are approximately 30 Muni buses per hour each way during the AM peak period. There are approximately 87 westbound Muni and GGT buses and 33 eastbound Muni buses per hour during the PM peak period.

Parking

On-street parking is permitted on both sides of the street, and parking occupancy is approximately 90 percent along this corridor during a typical weekday and higher during weekends, especially in the summer months. Most of the on-street parking spaces east of Columbus Avenue are metered while the spaces west of Columbus Avenue are located within RPP zone A. Non-permit holders are restricted to two-hour parking within this area. The north side of North Point Street between Mason and Taylor Streets is designated for tour bus parking and tour bus loading.

Pedestrian

Pedestrian volumes are generally low to moderate, but higher at the intersections with Columbus Avenue and Taylor Street (major access to Fisherman's Wharf and the cable car stop), especially during weekends and summer months.

Bicycle

Bicycle volumes are low to moderate. North Point Street is designated as existing Bicycle Route 2 (Class III) in both directions between The Embarcadero and Van Ness Avenue. Existing Bicycle Route 2 intersects with existing Bicycle Route 25 (Class II southbound, Class III with wide curb lanes northbound) at Polk Street, existing Bicycle Route 11 (Class III) at Columbus Avenue, and terminates at existing Bicycle Route 5 (Class II) on The Embarcadero. Street grades on North Point Street are relatively flat with slopes less than two percent except for the block between Leavenworth and Hyde Streets which has a slope of six percent.

Loading

Several uses, especially major hotels, large retail stores and shopping centers, have off-street loading areas fronting on North Point Street. Loading activities for the other commercial uses generally occur on-street. Heavy loading activity and frequent double-parking along the mid-section of this corridor was observed.[8]

CLUSTER 2: SOUTH OF MARKET AREA

This section presents the project-level transportation impact analysis conducted for the near-term bicycle route network improvement projects within the Cluster 2 area, including a description of the near-term improvements, their location and existing traffic, transit, parking, pedestrian, bicycle and loading conditions in the area.

[8] Field surveys were conducted by CHS Consulting on Tuesday, August 21, 2007 during the midday.

PROJECT LOCATIONS

CLUSTER 2

Cluster 2, shown on Figure V.A.3-6, p. V.A.3-32, is located in the eastern part of San Francisco. It is bounded by Market Street and 15th Street to the north, the waterfront, Mission Creek and Carolina Street to the east, and 20th Street to the south. The western boundary is roughly formed by Clayton Street. Cluster 2 includes the South of Market (SOMA) neighborhood which contains a significant part of the retail and business development for Downtown San Francisco.

As such, it attracts a good portion of the daily commuter population coming into the downtown from within San Francisco and from other communities in the Bay Area. In addition, it is the focus for visitor trips to Moscone Center, Museum of Modern Art, Yerba Buena Center, the Metreon, San Francisco Shopping Center, the Ferry Building and San Francisco Giants Ballpark. Major transit centers for BART, AC Transit, Golden Gate Transit, SamTrans, Caltrain and the various ferry services are located in Cluster 2.

Sixteen projects are included in the Cluster 2 area. Each project is identified below:

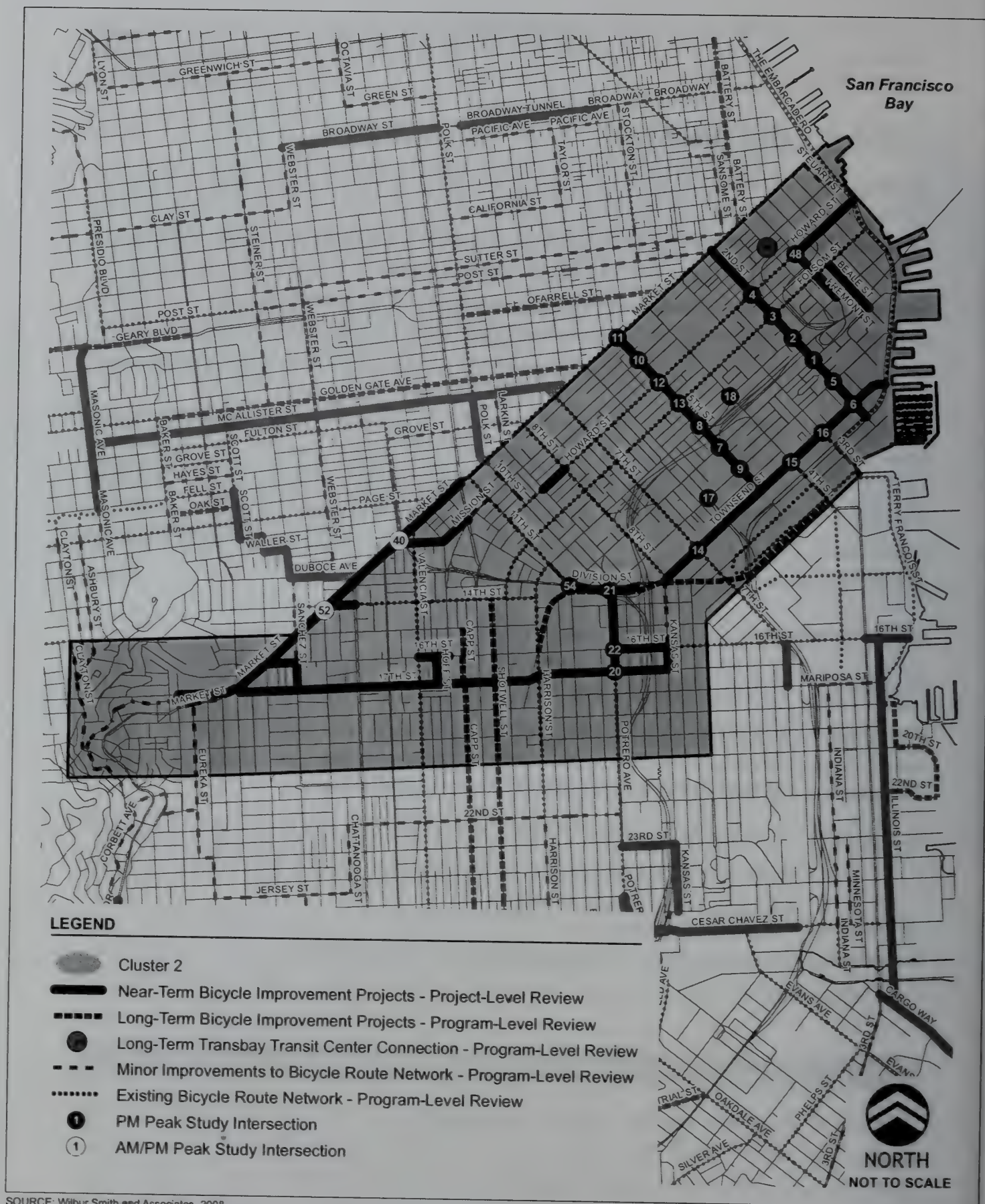
Project 2-1: 2nd Street Bicycle Lanes, King Street to Market Street

Project 2-2: 5th Street Bicycle Lanes, Market Street to Townsend Street

Project 2-3: 14th Street Bicycle Lanes, Dolores Street to Market Street

Project 2-4: 17th Street Bicycle Lanes, Corbett Avenue to Kansas Street, including connections to the 16th Street BART Station via Hoff Street or Valencia Street and 17th Street to Division Street via Potrero Avenue

Project 2-5: Beale Street Bicycle Lane, Bryant Street to Folsom Street



SOURCE: Wilbur Smith and Associates, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.3-6: CLUSTER 2 - STUDY AREA

Project 2-6: Division Street Bicycle Lanes, 9th Street to 11th Street

Project 2-7: Fremont Street Bicycle Lane, Harrison Street to Howard Street

Project 2-8: Howard Street Bicycle Lane, Extension at 9th Street

Project 2-9: Howard Street Bicycle Lane, The Embarcadero to Fremont Street

Project 2-10: Market Street and Valencia Street Intersection Improvements

Project 2-11: Market Street Bicycle Lanes, 17th Street to Octavia Boulevard

Project 2-12: Market Street Bicycle Lanes, Octavia Boulevard to Van Ness Avenue

Project 2-13: McCoppin Street Bicycle Path, Market Street to Valencia Street

Project 2-14: McCoppin Street Bicycle Lane, Gough Street to Valencia Street

Project 2-15: Otis Street Bicycle Lane, Gough Street to South Van Ness Avenue

Project 2-16: Townsend Street Bicycle Lanes, 8th Street to The Embarcadero

Most of the near-term improvements in Cluster 2 are recommended upgrades to existing facilities in the San Francisco bicycle route network with Projects 2-5 and 2-7 as the sole additions to the network. The projects in Cluster 2 currently exist on San Francisco's bicycle route network and are included on some of the key bicycle connectors in the City. Project 2-1, a north-south route, is included on existing Bicycle Route 11 which connects Fisherman's Wharf to the San Francisco Giants Ballpark and the Caltrain Depot at 4th and Townsend Streets. Project 2-1 is included on the San Francisco Bay Area Regional Bikeway Network. Project 2-2 is also a north-south route covering the full length of existing Bicycle Route 19 between Market and Townsend Streets. Project 2-2 is an important connection within the SOMA neighborhood and is one of the primary connectors of the Mission Bay Development to Downtown.

As previously mentioned, Projects 2-5 and 2-7 are new additions to the network. Project 2-5, located on Beale Street, would provide an additional southbound bicycle connection for the two blocks between Bryant and Folsom Streets Similarly, Project 2-7 would add a short one-block segment of Fremont Street to the network between Folsom and Harrison Streets.

Projects 2-3 and Project 2-12 were implemented prior to the Bicycle Plan injunction. Together with Projects 2-8 and 2-9, Project 2-3 are included on existing Bicycle Route 30, a major east-west

connector from the San Francisco Bay (The Embarcadero) to the Pacific Ocean (Ocean Beach) and included on the San Francisco Bay Area Regional Bikeway Network. Project 2-3 provides eastbound access while Projects 2-8 and 2-9 provide the westbound connection.

Projects 2-6 and 2-16 are located on existing Bicycle Route 36 which connects Townsend Street to Division Street. Both Projects 2-6 and 2-16 are located on the San Francisco Bay Area Regional Bikeway Network. Project 2-4 is located on existing Bicycle Route 40 providing the link between Ocean Beach and Illinois Street in Potrero Hill. Project 2-4 is located on 17th Street and offers connections to the Mission District and the 16th Street BART Station.

Projects 2-10, 2-11 and 2-12 are all located on Market Street along the major east-west existing Bicycle Route 50 connecting the Ferry Building and the Great Highway. This section of existing Bicycle Route 50 is included on the San Francisco Bay Area Regional Bikeway Network. Project 2-12 was implemented on May 15, 2006 prior to the Bicycle Plan injunction.

Projects 2-13, 2-14 and 2-15 are located on existing Bicycle Route 545 and provide connection between existing Bicycle Route 50 on Market Street and existing Bicycle Route 45 on Valencia Street. Project 2-13 was partially completed on September 9, 2005 with construction of the Class I bicycle path as part of the Central Freeway Project.

PROJECT DESCRIPTION

The following paragraphs describe the 16 near-term improvements included within the Cluster 2 area. Projects 2-3, 2-12, and 2-13 (partially) were implemented prior to the Bicycle Plan injunction. Seven of the near-term improvements include two design options; for the remaining nine projects, only one design option is proposed. Detailed drawings of existing and proposed lane striping and roadway configuration changes are included in Appendix B of this document.

PROJECT 2-1: 2ND STREET BICYCLE LANES, KING STREET TO MARKET STREET

Project 2-1 would involve the installation of Class II and Class III bicycle facilities in both directions on 2nd Street between King and Market Streets. Project 2-1 includes two design options:

- **Option 1**
  Option 1 would add Class II bicycle lanes on 2nd Street in both directions between King Street and Market Street, except in the following segments: Northbound approaching Market Street (mid-block between Mission Street and Market Street), northbound between Bryant Street and Harrison Street, and southbound approaching King Street

(mid-block between Townsend Street and King Street). Sharrows[9] would be added to the existing Class III bicycle route along these segments.

Option 1 would remove one southbound travel lane between Market Street and Mission Street, remove one travel lane in both directions between Mission Street and Harrison Street, remove one northbound travel lane between Townsend Street and Harrison Street, add a northbound right-turn pocket at Mission Street, add northbound left-turn pockets at Mission Street, Howard Street, and Harrison Street, add southbound right-turn pockets at Mission Street, Howard Street, and Harrison Street, and add southbound left-turn pockets at Mission Street, Folsom Street, and Harrison Street.

Option 1 would remove 64 parking spaces on the east side and 33 parking spaces on the west side of 2nd Street. The anticipated parking loss would include both metered and un-metered spaces, metered and un-metered commercial loading spaces, passenger loading spaces, accessible parking spaces, and metered motorcycle spaces.

- **Option 2**
  Option 2 would add Class II bicycle lanes on 2nd Street in both directions between King Street and Market Street, except in the following segments: Northbound approaching Market Street (mid-block between Mission Street and Market Street), northbound between Bryant Street and Harrison Street, and southbound approaching King Street (mid-block between Townsend Street and King Street). Sharrows would be added to the existing Class III bicycle route along these segments.

  Option 2 would remove one southbound travel lane between Market Street and Mission Street, remove one travel lane in both directions between Mission Street and Harrison Street, remove one southbound travel lane between Harrison Street and Townsend Street, add a northbound right-turn pocket at Mission Street, add northbound left-turn pockets at Mission Street, Howard Street, and Harrison Street, add southbound right-turn pockets at Mission Street, Howard Street, and Harrison Street, and add southbound left-turn pockets at Mission Street, Folsom Street, and Harrison Street.

  Option 2 would remove 64 parking spaces on the east side and 24 parking spaces on the west side of 2nd Street. The anticipated parking loss would include both metered and un-metered spaces, metered and un-metered commercial loading spaces, passenger loading spaces, accessible parking spaces, and metered motorcycle spaces.

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[9] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/ CAMUTCD-Part 9.pdf.

PROJECT 2-2: 5TH STREET BICYCLE LANES, MARKET STREET TO TOWNSEND STREET

Project 2-2 would involve the installation of Class II and Class III bicycle facilities in both directions on 5th Street between Market Street and Townsend Street. Project 2-2 includes two design options:

- **Option 1**
  Option 1 would add Class II bicycle lanes on 5th Street in both directions between Market Street and Townsend Street, except in the following segments: both directions between Market Street and Mission Street and between Howard Street and Tehama Street. Sharrows would be added to the existing Class III bicycle route along these segments.

  Option 1 would remove one northbound travel lane between Harrison Street and Howard Street and between Townsend Street and Bryant Street, add a northbound right-turn pocket at Folsom Street, add northbound left-turn pockets at Howard Street, Harrison Street, and Brannan Street, and add southbound right-turn pockets at Howard Street, Harrison Street, and Brannan Street.

  Option 1 would remove 13 parking spaces on the east side and 27 parking spaces on the west side of 5th Street. The anticipated parking loss would includes both metered and un-metered spaces, metered and un-metered commercial loading spaces, passenger loading spaces, accessible parking spaces, and metered motorcycle spaces.

- **Option 2**
  Option 2 would add Class II bicycle lanes on 5th Street in both directions between Market Street and Townsend Street, except in the following segments: both directions between Market Street and Mission Street, both directions between Folsom Street and approximately 100 feet northerly and northbound between Harrison Street and approximately 100 feet northerly. Sharrows would be added to the existing Class III bicycle route along these segments.

  Option 2 would remove one northbound travel lane between Townsend Street and Brannan Street, remove one southbound travel lane between Natoma Street and Folsom Street, remove one southbound travel lane between Harrison Street and Bryant Street, add a northbound left-turn pocket at Brannan Street, add southbound right-turn pockets at Howard Street and Brannan Street, and add a southbound left-turn pocket at Folsom Street.

  Option 2 would remove three parking spaces on the east side and 68 parking spaces on the west side of 5th Street. The anticipated parking loss would include both metered and un-metered spaces, metered and un-metered commercial loading spaces, passenger loading spaces, accessible parking spaces, and metered motorcycle spaces.

PROJECT 2-3: 14TH STREET BICYCLE LANES, DOLORES STREET TO MARKET STREET

Project 2-3 was partially implemented on March 27, 2006 prior to the Bicycle Plan injunction. Project 2-3 involved adding a Class II bicycle lane on eastbound 14th Street between Market Street and Dolores Street and the conversion of 14th Street from two-way operation to one-way eastbound operation between Market Street and Dolores Street.

Although Project 2-3 has already been implemented, a second design option is being evaluated in the Bicycle Plan EIR. Project 2-3 includes two design options:

- **Option 1**
  Option 1, implemented prior to the Bicycle Plan injunction, involved converting 14th Street from two-way operation to one-way eastbound operation between Market Street and Dolores Street, and installing an eastbound bicycle lane. Option 1 included minor modifications to the existing median island at the intersection of 14th Street and Market Street. Further modifications to this median island proposed under Option 1, but not yet implemented, include connecting it to the existing sidewalk on the southeast corner of the intersection, in order to prevent vehicles traveling westbound on 14th Street from accessing Market Street, and to reduce the crossing distance for pedestrians crossing the east side of 14th Street at Market Street.

- **Option 2**
  Option 2 would involve restoring this block of 14th Street to two-way operation, removing one eastbound travel lane and installing an eastbound Class II bicycle lane between Market Street and Dolores Street.

PROJECT 2-4: 17TH STREET BICYCLE LANES, CORBETT AVENUE TO KANSAS STREET, INCLUDING CONNECTIONS TO THE 16TH STREET BART STATION VIA HOFF STREET OR VALENCIA STREET AND 17TH STREET TO DIVISION STREET VIA POTRERO AVENUE

Project 2-4 would involve the installation of Class II and Class III bicycle facilities primarily on 17th Street between Corbett Avenue and Kansas Street, with several possible branches onto adjacent streets. The primary component of Project 2-4 is located on 17th Street and is divided into three sections: West End (Corbett Avenue to Church Street), Center Segment (Church Street to Potrero Avenue), and East End (Potrero Avenue to Kansas Street).

All options for Project 2-4 would provide an enhanced connection to the 16th Street BART Station by adding a new Class III bicycle route and sharrows on Hoff Street between 16th Street and 17th Street and on 16th Street between Mission and Valencia Streets in both directions. All options for Project 2-4 would also include minor striping and signage improvements on 17th Street between Corbett Avenue and Market Street. Additionally, all options for Project 2-4 would add a new bicycle route and Class II bicycle lanes on Potrero Avenue in both directions

between 17th Street and Division Street by removing one travel lane in both directions between 17th Street and Division Street and adding a two-way center left turn lane between 17th Street and Alameda Street.

The West End section of 17th Street includes two design options:

Both West End options would add sharrows to the existing Class III bicycle route on eastbound 17th Street between Corbett Avenue and Eureka Street, and would add a Class II bicycle lane in the westbound direction on 17th Street between Castro Street and Corbett Avenue by removing three parking spaces.

- **Option 1**
  West End Option 1 would add sharrows to the existing Class III bicycle route in both directions on 17th Street between Castro and Hartford Streets and add Class II bicycle lanes in both directions on 17th Street between Hartford and Church Streets by narrowing travel lanes. West End Option 1 would remove approximately two parking spaces on each side of 17th Street near Church Street.

- **Option 2**
  West End Option 2 would move the existing westbound segment of Route #40 on 17th Street from Sanchez to Market Streets onto a new proposed route in the northbound direction on Sanchez Street from 17th to 16th Streets, and in the westbound direction on 16th Street from Sanchez to Market Streets. West End Option 2 would add sharrows on these segments of Sanchez and 16th Streets. West End Option 2 would add a westbound Class II bicycle lane on 17th Street between Church and Sanchez Streets, and would add sharrows in the eastbound direction on the existing 17th Street Class III bicycle route between Sanchez Street and Church Street. West End Option 2 would remove approximately two parking spaces on the north side of 17th Street near Church Street.

The Center Segment of 17th Street includes two design options:

- **Option 1**
  Center Segment Option 1 would add Class II bicycle lanes on 17th Street in both directions between Church Street and Potrero Avenue. Center Segment Option 1 would not involve removing any travel lanes or parking between Church Street and Harrison Street.

- **Option 2**
  Center Segment Option 2 would add a Class II bicycle lane in the westbound direction between Harrison Street and Church Street, and add sharrows in the eastbound direction on the existing Class III bicycle route between Church Street and Harrison Street. Center Segment Option 2 would not involve removing any travel lanes or parking between Church Street and Harrison Street.

Both Center Segment Options 1 and 2 would add Class II bicycle lanes on 17th Street between Harrison Street and Potrero Avenue in both directions by narrowing travel lanes and by removing approximately 49 parking spaces on the north side of 17th Street. Some parking spaces would be added on adjacent streets by converting parallel parking to perpendicular parking.

The East End section of 17th Street includes two design options:

- **Option 1**
  East End Option 1 would add Class II bicycle lanes on 17th Street in both directions between Kansas Street and Potrero Avenue by removing approximately 37 parking spaces on the south side of 17th Street. East End Option 1 would also add Class II bicycle lanes on Kansas Street in both directions between 16th and 17th Streets by narrowing travel lanes.

- **Option 2**
  East End Option 2 would move the existing Bicycle Route #40 off of 17th Street between Kansas Street and Potrero Avenue onto Potrero Avenue between 16th Street and 17th Street, and onto 16th Street between Kansas Street and Potrero Avenue. East End Option 2 would add bicycle lanes on 16th Street in both directions between Kansas Street and Potrero Avenue by removing one westbound travel lane between San Bruno Avenue and Potrero Avenue. On the eastbound 16th Street approach to Potrero Avenue, East End Option 2 would establish a "Right Lane Must Turn Right Except for Muni" regulation.

PROJECT 2-5: BEALE STREET BICYCLE LANE, BRYANT STREET TO FOLSOM STREET

Project 2-5 would add a new route to the City's existing bicycle route network.

Project 2-5 would involve the installation of a Class II bicycle lane in the southbound direction on Beale Street between Folsom Street and Bryant Street.

The reopening of Beale Street as a through street in 2006, after it was closed as a post-9/11 security measure for the Bay Bridge, involved converting the street from one-way southbound operation to two-way operation, with one travel lane in both directions. This conversion resulted in parking layout changes on both sides of the street with a net loss of 42 parking spaces. Project 2-5 would add a southbound Class II bicycle lane between Folsom Street and Bryant Street and would not involve any travel lane or parking removal.

PROJECT 2-6: DIVISION STREET BICYCLE LANES, 9TH STREET TO 11TH STREET

Project 2-6 would involve the installation of Class II bicycle lanes in both directions on Division Street between 9th Street and 11th Street. Project 2-6 includes two design options:

- **Option 1**
  Option 1 would remove a travel lane in the eastbound direction from approximately 200 feet east off 11th Street to 10th Street, and in the westbound direction, from approximately 200 feet west of 10th Street to 11th Street and remove approximately 20 total parking spaces between 10th and 11th Streets. Project 2-6 would also narrow travel lanes between 9th and 10th Streets, and add Class II bicycle lanes in both directions between 9th and 11th Streets.

- **Option 2**
  Option 2 would remove approximately 65 total parking spaces between 10th and 11th Streets, narrow travel lanes between 9th and 10th Streets, and add Class II bicycle lanes in both directions between 9th Street and 11th Street.

PROJECT 2-7: FREMONT STREET BICYCLE LANE, HARRISON STREET TO HOWARD STREET

Project 2-7 would add a new route to the City's existing bicycle route network.

Project 2-7 would involve the installation of Class II and Class III bicycle facilities in both directions on Fremont Street between Howard Street and Harrison Street.

Project 2-7 would add a new Class III bicycle route with sharrows, on northbound Fremont Street between Harrison Street and Howard Street, and would add a Class II bicycle lane on southbound Fremont Street between Folsom Street and Harrison Street by narrowing northbound travel lanes and removing one southbound travel lane. Sidewalks on both sides of Fremont Street are proposed to be widened to 15' in accordance with the already approved Rincon Hill Area Plan, an Area Plan of the *San Francisco General Plan*.

PROJECT 2-8: HOWARD STREET BICYCLE LANE, EXTENSION AT 9TH STREET

Project 2-8 would involve the installation of a Class II bicycle lane in the westbound direction on Howard Street for approximately 200 feet approaching 9th Street. Project 2-8 would close an existing gap in the Howard Street bicycle lane.

Project 2-8 would change one shared through/right-turn lane on westbound Howard Street approaching 9th Street to a through-only lane, and would change an existing 200-foot tow-away 4:00 p.m.-6:00 p.m. zone along the north side of Howard Street to a permanent tow-away zone (creating a full-time right-turn only lane in place of the existing 4:00 p.m.-6:00 p.m. right-turn only lane). Project 2-8 would add a westbound Class II bicycle lane for approximately 200 feet east of 9th Street between a thru-lane and a right-turn only lane. Project 2-8 would remove three metered parking spaces on the north side of Howard Street.

PROJECT 2-9: HOWARD STREET BICYCLE LANE, THE EMBARCADERO TO FREMONT STREET

Project 2-9 would involve the installation of a Class II bicycle lane in the westbound direction on Howard Street between The Embarcadero and Fremont Street.

Project 2-9 would add a westbound Class II bicycle lane between The Embarcadero and Fremont Street by narrowing travel lanes in both directions on Howard Street from The Embarcadero to Steuart Street, removing one eastbound travel lane between Spear Street and Steuart Street, converting one of the two eastbound travel lanes between Main Street and Spear Street to a right-turn only lane (excepting Muni), and removing one westbound travel lane between Main Street and Fremont Street during the AM and PM peak hours. Project 2-9 would result in a gain of 17 parking spaces on the north side of Howard Street during the afternoon peak hours and a gain of 10 parking spaces during the morning peak hours. Project 2-9 also would establish a part-time bus zone on the southeast corner of Howard Street and Spear Street, which would result in a loss of four parking spaces from 6:00 a.m. to 10 a.m.

PROJECT 2-10: MARKET STREET AND VALENCIA STREET INTERSECTION IMPROVEMENTS

Project 2-10 would involve traffic signal modifications and installing a Class II left-turn bicycle lane on the westbound Market Street approach to the intersection.

Project 2-10 would facilitate bicycle left turns from westbound Market Street to southbound Valencia Street by adding a westbound Class II left-turn bicycle lane from Gough Street to Valencia Street and by installing a bicycle traffic signal head at the intersection of Market Street and Valencia Street.

Project 2-10 would reduce the width of a 40-foot long section of the sidewalk along the north side of Market Street by five feet to create a queuing area for westbound bicyclists waiting for the signal to cross Market Street and continue onto southbound Valencia Street. The sidewalk width in this affected area would be reduced to 10 feet.

PROJECT 2-11: MARKET STREET BICYCLE LANES, 17TH STREET TO OCTAVIA BOULEVARD

Project 2-11 would involve the installation of short segments of Class II bicycle lanes in both directions on Market Street between 17th Street and Octavia Boulevard to close gaps in otherwise continuous Class II bicycle lanes. Project 2-11 includes two design options:

- **Option 1**
  Option 1 would add Class II bicycle lanes by removing right-turn lanes in the eastbound direction approaching Noe Street, Sanchez Street, and Dolores Street, and in the westbound direction approaching Church Street and Sanchez Street. In the eastbound direction, Option 1 would remove five parking spaces approaching Noe Street, five parking spaces approaching Sanchez Street, two parking spaces approaching Dolores Street, and eight parking spaces approaching Guerrero Street. In the westbound direction, Option 1 would remove seven parking spaces approaching Laguna Street, seven parking spaces approaching Buchanan Street, three parking spaces approaching Church Street, three parking spaces approaching Sanchez Street, and nine parking spaces approaching Noe Street. Option 1 would reduce the width of the sidewalk bulb-outs by five feet at the intersections of Market Street with Laguna Street, Buchanan Street, Noe Street and Guerrero Street.

- **Option 2**
  Option 2 would reduce the sidewalk widths approaching all of the intersections in both directions by five feet to add Class II bicycle lanes. Option 2 would narrow the sidewalk at certain areas from 15 feet to 10 feet, and would relocate traffic signal hardware and other sidewalk fixtures. Option 2 would remove approximately four parking spaces on the south side of Market Street near Guerrero Street.

PROJECT 2-12: MARKET STREET BICYCLE LANES, OCTAVIA BOULEVARD TO VAN NESS AVENUE

Project 2-12 was implemented on May 15, 2006 prior to the Bicycle Plan injunction. Project 2-12 involved the installation of Class II and Class III bicycle facilities in both directions on Market Street between Octavia Boulevard and Van Ness Avenue.

A Class II bicycle lane was added in the westbound direction on Market Street between Van Ness Avenue and Octavia Boulevard and in the eastbound direction on Market Street between Gough Street and 12th Street. Class II bicycle lanes existed on eastbound Market Street between Octavia Boulevard and Valencia Street and between 12th Street and Van Ness Avenue prior to the implementation of Project 2-12. Project 2-12 involved adding sharrows to the existing Class III bicycle route on eastbound Market Street between Valencia Street and Gough Street. One westbound travel lane was removed between Van Ness Avenue and Rose Street to add a Class II bicycle lane in the westbound direction. Thirty metered parking spaces and six metered motorcycle spaces were removed from Market Street between 12th Street and Octavia Boulevard as part of Project 2-12. Six metered parking spaces were added to the north side of Market Street between Franklin Street and Rose Street. Twenty metered parking spaces were added on 12th Street between Market Street and Van Ness Avenue by converting parallel parking spaces to perpendicular parking spaces. Four metered parking spaces were added to the east side of

Gough Street between Market Street and Colton Street by converting parallel parking spaces to angle parking spaces and by removing one northbound travel lane on Gough Street approaching Market Street.

PROJECT 2-13: MCCOPPIN STREET BICYCLE PATH, MARKET STREET TO VALENCIA STREET

Project 2-13 would involve the addition of a bi-directional Class I bicycle path connecting the intersection of Market Street and Octavia Boulevard to the western terminus of McCoppin Street, and the addition of Class II bicycle lanes on McCoppin Street in both directions between Valencia Street and the western terminus of McCoppin Street.

The construction of the Class I bicycle path was completed on September 9, 2005 as part of the Central Freeway Project. Approximately four parking spaces would be removed from the north side of McCoppin Street between Valencia Street and the western terminus of McCoppin Street to accommodate the Class II bicycle lanes.

PROJECT 2-14: MCCOPPIN STREET BICYCLE LANE, GOUGH STREET TO VALENCIA STREET

Project 2-14 would involve the installation of a Class II bicycle lane in the westbound direction on McCoppin Street between Gough Street and Valencia Streets.

Project 2-14 would remove one westbound travel lane on McCoppin Street from Gough Street to 125' east of Valencia Street and remove approximately seven parking spaces on the north side of McCoppin Street near Valencia Street. Three parking spaces would be added on the south side of McCoppin Street between Jessie Street and Stevenson Streets by converting parallel parking to perpendicular parking. Project 2-14 would result in a net loss of approximately four parking spaces.

PROJECT 2-15: OTIS STREET BICYCLE LANE, GOUGH STREET TO SOUTH VAN NESS AVENUE

Project 2-15 would involve the installation of a Class II bicycle lane in the westbound direction on Otis Street between South Van Ness Avenue and Gough Street.

Project 2-15 would not involve removal of travel lanes or parking, but would narrow existing travel lanes.

PROJECT 2-16: TOWNSEND STREET BICYCLE LANES, 8TH STREET TO THE EMBARCADERO

Project 2-16 would involve the installation of Class II and Class III bicycle facilities in both directions on Townsend Street between 8th Street and The Embarcadero.

Sharrows would be added in both directions on Townsend Street between 2nd Street and The Embarcadero, which is an existing Class III bicycle route. The existing front-in-angled parking spaces on both sides of the street would be converted to back-in-angled parking.

Project 2-16 would add Class II bicycle lanes on Townsend Street in both directions between 2nd Street and 4th Street. Project 2-16 would remove one travel lane in both directions between 2nd Street and 4th Street and add a two-way center left-turn lane between 2nd Street and 4th Street, including left-turn pockets eastbound at 2nd Street and 3rd Street and westbound at 4th Street. Project 2-16 would add parking along a portion of the south side of Townsend Street between 3rd Street and Lusk Street.

Project 2-16 would add Class II bicycle lanes on Townsend Street in both directions between 7th Street and 8th Street by narrowing travel lanes and adding a right-turn pocket on eastbound Townsend Street approaching 7th Street. No travel lane or parking removals would be required along this segment.

The segment of Project 2-16 between 4th Street and 7th Street includes two design options:

Both options would add Class II bicycle lanes on Townsend Street in both directions between 4th Street and 7th Street by narrowing travel lanes and reconfiguring existing parking. Both options would provide space for the construction of continuous sidewalks on both sides of Townsend Street between 4th and 7th Streets, and would require travel lane configuration changes on 4th Street approaching Townsend Street, including the removal of one northbound right-turn lane, the conversion of one southbound left-turn lane into a thru-lane, and the conversion of one southbound thru-lane into a right-turn lane.

- **Option 1**
  Option 1 one would convert the existing front-in-angled parking on the south side of Townsend Street to back-in-angled parking between 4th Street and 7th Street and would convert the existing perpendicular parking on the north side of Townsend Street to parallel parking between 4th Street and 7th Street. Option 1 would result in a loss of approximately 80 parking spaces and six part-time parking spaces that are currently restricted to truck loading during certain hours.

- **Option 2**
  Option 2 would convert the existing angled parking on the south side of Townsend Street to parallel parking between 4th Street and 7th Street and would convert the existing parallel and perpendicular parking on the north side of Townsend Street to back-in-perpendicular parking between 4th Street and Townsend Street, except for approximately 200 feet east of 7th Street, which would remain parallel parking. Option 2 would result in a loss of approximately 26 parking spaces and a gain of 16 part-time parking spaces that are currently restricted to truck loading during certain hours.

PROJECT SETTING

This section provides a description of the existing transportation conditions along the bicycle near-term improvements in Cluster 2. Descriptions of the existing roadway access, traffic, transit, parking, pedestrian, bicycle and loading conditions are included. The study intersections for Cluster 2 as shown on Figure V.A.3-6, p. V.A.3-32. Figures showing the turning movement traffic volumes and lane configurations at those study intersections for Existing conditions may be found within the transportation impact analysis discussion for Cluster 2 within the transportation impact study. LOS calculation sheets for those study intersections and transit delay calculation sheets for the affected transit routes may be found in the appendices of the transportation impact study.[10]

PROJECT 2-1: 2ND STREET BICYCLE LANES, KING STREET TO MARKET STREET

Roadways

2nd Street between King and Market Streets is generally a four-lane north-south street. During the evening commute hours, 2nd Street is used as a major commute route to the Bay Bridge and traffic volumes are usually heavy, especially along the blocks between Howard and Bryant Streets.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour. Table V.2-1, p. V.A.3-46, summarizes these results.

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[10] Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study*. This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File No 2007.0347E.

TABLE V.2-1
CLUSTER 2 – PROJECT 2-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS[b]
1.	2nd Street/Bryant Street	Signal	**60.3**	**E**
2.	2nd Street/Harrison Street	Signal	**64.9**	**E**
3.	2nd Street/Folsom Street	Signal	44.7	D
4.	2nd Street/Howard Street	Signal	20.1	C
5.	2nd Street/Brannan Street	Signal	14.1	B
6.	2nd Street/Townsend Street	Signal	13.8	B

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in **bold**.

PM Peak Hour

Intersection 1: 2nd Street/Bryant Street

During the weekday PM peak hour, the 2nd Street/Bryant Street intersection operates at an unacceptable level of service (LOS E), with 60.3 seconds of delay.

Intersection 2: 2nd Street/Harrison Street

During the weekday PM peak hour, the 2nd Street/Harrison Street intersection operates at an unacceptable level of service (LOS E), with 64.9 seconds of delay.

Intersection 3: 2nd Street/Folsom Street

During the weekday PM peak hour, the 2nd Street/Folsom Street intersection operates at an acceptable level of service (LOS D), with 44.7 seconds of delay.

Intersection 4: 2nd Street/Howard Street

During the weekday PM peak hour, the 2nd Street/Howard Street intersection operates at an acceptable level of service (LOS C), with 20.1 seconds of delay.

Intersection 5: 2nd Street/Brannan Street

During the weekday PM peak hour, the 2nd Street/Brannan Street intersection operates at an acceptable level of service (LOS B), with 14.1 seconds of delay.

Intersection 6: 2nd Street/Townsend Street

During the weekday PM peak hour, the 2nd Street/Bryant Street intersection operates at an acceptable level of service (LOS B), with 13.8 seconds of delay.

Transit

Muni bus lines 9, 10, 71, and 108 operate along portions of 2nd Street from King Street to Market Street. Muni bus lines 9, 10, and 71 run southbound for the one block between Market and Mission Streets with approximately 16 buses per hour during the AM peak period and 17 buses per hour during the PM peak period. Muni bus line 71 operates only during evening and weekend hours. Muni bus lines 10 and 108 also run along 2nd Street between Howard and Townsend Streets, with approximately four buses per hour in each direction in the AM and PM peak periods. Bus stops are located on the blocks between Market and Jessie Streets.

Parking

On-street parking is permitted and regulated by parking meters on both sides of the street; parking occupancy is generally moderate to high.

Pedestrian

Pedestrian volumes are high between Market and Howard Streets during the AM and PM peak periods as well as during the midday and low to moderate between Howard and King Streets.

Bicycle

Bicycle volumes are generally low but increase to moderate levels during the commute periods. 2nd Street is designated as existing Bicycle Route 11 (Class III) in both directions between King and Market Streets. Existing Bicycle Route 11 connects with existing Bicycle Route 50 (Class III) at Market Street, existing Bicycle Route 30 (Class II) at Howard Street (westbound) and Folsom Street (eastbound), existing Bicycle Route 36 (Class III) at Townsend Street, and existing Bicycle Route 5 (Class II/III) at King Street. Grades along Project 2-1 are generally below three percent with a five percent segment between Howard and Folsom Streets.

Loading

There are approximately 40 on-street yellow commercial freight loading spaces between Market and Bryant Streets. In addition, most large size office and hotel buildings along this portion of 2nd Street have off-street loading docks. Double-parking for loading activities occurs occasionally.

PROJECT 2-2: 5TH STREET BICYCLE LANES, MARKET STREET TO TOWNSEND STREET

Roadways

5th Street between Market and Townsend Streets is a four-lane north-south major arterial. The portion of 5th Street between Howard and Brannan Streets is part of the MTS Roadway Network and the CMP Network, and the portion of 5th Street between Market and Howard Streets is part of the MTS Roadway Network. 5th Street provides direct access to I-80, with an off-ramp at Harrison Street and an on-ramp at Bryant Street. Traffic volumes are generally low to moderate, increasing to high near the I-80 ramps particularly during commute hours.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour. Table V.2-2, p. V.A.3-49, summarizes these results.

Intersection 7: 5th Street/Bryant Street

During the weekday PM peak hour, the 5th Street/Bryant Street intersection operates at an unacceptable level of service (LOS E), with 75.8 seconds of delay.

Intersection 8: 5th Street/Harrison Street

During the weekday PM peak hour, the 5th Street/Harrison Street intersection operates at an acceptable level of service (LOS D), with 52.5 seconds of delay.

Intersection 9: 5th Street/Brannan Street

During the weekday PM peak hour, the 5th Street/Brannan Street intersection operates at an unacceptable level of service (LOS E), with 55.3 seconds of delay.

TABLE V.2-2
CLUSTER 2 – PROJECT 2-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS[b]
7.	5th Street/Bryant Street	Signal	**75.8**	**E**
8.	5th Street/Harrison Street	Signal	52.5	D
9.	5th Street/Brannan Street	Signal	**55.3**	**E**
10.	5th Street/Mission Street	Signal	45.8	D
11.	5th Street/Market Street	Signal	15.4	B
12.	5th Street/Howard Street	Signal	24.3	C
13.	5th Street/Folsom Street	Signal	16.8	B
17.	6th Street /Brannan Street	Signal	**>80**	**F**
18.	4th Street/Harrison Street	Signal	**63.2**	**E**

Source: Wilbur Smith Associates, October 2008

Notes:

a Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in **bold**.

Intersection 10: 5th Street/Mission Street

During the weekday PM peak hour, the 5th Street/Mission Street intersection operates at an acceptable level of service (LOS D), with 45.8 seconds of delay.

Intersection 11: 5th Street/Market Street

During the weekday PM peak hour, the 5th Street/Brannan Street intersection operates at an acceptable level of service (LOS B), with 15.4 seconds of delay.

Intersection 12: 5th Street/Howard Street

During the weekday PM peak hour, the 5th Street/Howard Street intersection operates at an acceptable level of service (LOS C), with 24.3 seconds of delay.

Intersection 13: 5th Street/Folsom Street

During the weekday PM peak hour, the 5th Street/Folsom Street intersection operates at an acceptable level of service (LOS B), with 16.8 seconds of delay.

Intersection 17: 6th Street/Brannan Street

During the weekday PM peak hour, the 6th Street/Brannan Street intersection operates at an unacceptable level of service (LOS F), with more than 80 seconds of delay.

Intersection 18: 4th Street/Harrison Street

During the weekday PM peak hour, the 4th Street/Harrison Street intersection operates at an unacceptable level of service (LOS E), with 63.2 seconds of delay.

Transit

Muni bus lines 26, 27, and 47 run along portions of 5th Street. Between Market and Mission Streets, Muni bus lines 26 and 27 run approximately five northbound buses and eight southbound buses per hour during the AM and PM peak periods. Muni bus line 27 continues on 5th Street between Mission and Bryant Streets with approximately five buses per hour. Muni bus line 47 operates between Harrison and Townsend Streets with approximately 13 northbound buses and five southbound buses per hour during the AM and PM peak periods, respectively. Bus stops are located at most of the intersections with major streets.

Parking

On-street parking is generally permitted on both sides of the street and regulated by parking meters north of Harrison Street. South of Harrison Street on-street parking is generally not metered but may be controlled by time limits; parking occupancy is typically moderate to high.

Pedestrians

Pedestrian volumes are moderate to high between Market and Mission Streets during the AM and PM peak periods as well as during the midday and generally low between Mission and Townsend Streets.

Bicycle

Bicycle volumes are generally low, increasing to moderate during commute periods. 5th Street is designated as existing Bicycle Route 19 (Class III) in both directions between Market and Townsend Streets. Existing Bicycle Route 19 connects with existing Bicycle Route 50 (Class III) at Market Street, existing Bicycle Route 30 (Class II) at Howard Street (westbound) and Folsom Street (eastbound), and existing Bicycle Route 36 (Class III with wide curb lanes) at Townsend Street. Street grades along Project 2-2 are flat with slopes of less than one percent.

Loading

On both sides of 5th Street, there are approximately 19 on-street yellow commercial freight loading spaces between Market and Townsend Streets. In addition, there are approximately six on-street passenger loading spaces and two green 10-minute spaces. Infrequent double parking for loading activities was observed.[11]

PROJECT 2-3: 14TH STREET BICYCLE LANE, DOLORES STREET TO MARKET STREET

Project 2-3 was partially implemented on March 27, 2006 prior to the Bicycle Plan injunction; as such, post-project Implementation conditions describe what is on the ground today and are analyzed under Existing plus Project and Cumulative plus Project conditions. Pre-project conditions describe what existed before the implementation of Project 2-3 and are analyzed under Existing and Cumulative conditions.

Roadways

14th Street between Dolores and Market Streets was a two-way local street with one westbound and two eastbound travel lanes under "pre-project" conditions.

This segment has been converted to an eastbound one-way street with two travel lanes, and an eastbound Class II bicycle lane was installed under "post-project implementation" conditions. Traffic volumes are generally moderate during the AM peak hour and lower at other times.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the AM and PM peak hours.

Intersection 52: Church Street/Market Street/14th Street

During the weekday AM peak hour, the Church Street/Market Street/14th Street intersection operates at an unacceptable level of service (LOS F), with more than 80 seconds of delay. Table V.2-3, p. V.A.3-52, summarizes these results.

[11] Field surveys were conducted by CHS Consulting on Wednesday, August 29, 2007 during the midday.

TABLE V.2-3
CLUSTER 2 – PROJECT 2-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY AM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
52.	Church Street/Market Street/14th Street	Signal	> 80	F

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

Intersection 52: Church Street/Market Street/14th Street

During the weekday PM peak hour, the Church Street/Market Street/14th Street intersection operates at an acceptable level of service (LOS D), with 52.2 seconds of delay. Table V.2-4, p. V.A.3-52, summarizes these results.

TABLE V.2-4
CLUSTER 2 – PROJECT 2-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
52.	Church Street/Market Street/14th Street	Signal	52.2	D

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

Transit

There are no transit lines on this section of 14th Street.

Parking

On-street unmetered parking is permitted on both sides of the street; parking occupancy is generally high.

Pedestrian

Pedestrian volumes are generally low along 14th Street and slightly higher at the Market Street intersection.

Bicycle

14th Street is designated as existing Bicycle Route 30 (Class II eastbound). Existing Bicycle Route 30 connects with existing Bicycle Route 50 (Class II) at Market Street. Bicycle volumes are generally low to moderate. Street grades along Project 2-3 are flat with slopes below one percent.

Loading

The buildings in this section of 14th Street do not have off-street loading spaces or on-street yellow commercial freight loading spaces. While truck loading demand for the buildings along these two blocks of 14th Street is low, double parked trucks were observed making deliveries to some buildings on this block as well as those along Market Street at 14th Street.

PROJECT 2-4: 17TH STREET BICYCLE LANES, CORBETT AVENUE TO KANSAS STREET, INCLUDING CONNECTIONS TO THE 16TH STREET BART STATION VIA HOFF STREET OR VALENCIA STREET AND 17TH STREET TO DIVISION STREET VIA POTRERO AVENUE

Roadways

The 17th Street corridor includes two major east-west streets (16th and 17th Streets) and four north-south streets (Potrero Avenue, Sanchez Street, Hoff Street and Kansas Street). 17th Street is a two-lane east-west secondary arterial between Corbett Avenue and Castro Street and a local street between Castro and Kansas Streets. The portion of 17th Street between Eureka and Castro Streets is one-way westbound, with two travel lanes. Traffic volumes are generally low.

The portions of 16th Street between Market and Sanchez Streets and between Kansas Street and Potrero Avenue are major arterials which are a part of the MTS Roadway Network. Traffic volumes are generally high between Kansas Street and Potrero Avenue.

Potrero Avenue between Division and 17th Streets is a major arterial, which is a part of the MTS Roadway Network and the CMP Network. Traffic volumes are generally high.

The remaining three north-south streets (Sanchez, Hoff, and Kansas Streets) are two-lane local streets between 16th and 17th Streets.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour. Table V.2-5, p. V.A.3-54, summarizes these results.

TABLE V.2-5
CLUSTER 2 – PROJECT 2-4
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS[b]
20.	Potrero Avenue/17th Street	Signal	22.8	C
21.	10th Street/Brannan Street/ Potrero Avenue/Division Street	Signal	**72.0**	**E**
22.	Potrero Avenue/16th Street	Signal	19.5	B

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b Intersections operating at LOS E or LOS F conditions are highlighted in **bold**.

Intersection 20: Potrero Avenue/17th Street

During the weekday PM peak hour, the Potrero Avenue/17th Street intersection operates at an acceptable level of service (LOS C), with 22.8 seconds of delay.

Intersection 21: 10th Street/Brannan Street/Potrero Avenue/Division Street

During the weekday PM peak hour, the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection operates at an unacceptable level of service (LOS E), with 72 seconds of delay.

Intersection 22: Potrero Avenue/16th Street

During the weekday PM peak hour, the Potrero Avenue/16th Street intersection operates at an acceptable level of service (LOS B), with 19.5 seconds of delay.

Transit

Muni bus line 37 runs on 17th Street between Corbett Avenue and Diamond Street. The F-Market streetcar runs along 17th Street between Castro and Noe Streets, while non-revenue service tracks continue to Church Street. Muni has a bus storage facility that is bounded by 17th, Bryant, Mariposa, and Hampshire Streets, with primary access off Mariposa Street. Muni bus lines 22 and 53 run along portions of 16th Street between Church and Kansas Streets. Muni bus line 9 and 33 and SamTrans bus line 292 run along Potrero Avenue between Division and 17th Streets.

Parking

On-street parking is permitted on both sides of 17th Street, and occupancy is typically high. Parking occupancy on 16th Street is generally high between Kansas Street and Potrero Avenue. On-street parking is typically permitted on Sanchez, Hoff and Kansas Streets. Sanchez Street has perpendicular parking on the east side, and Hoff Street has parking allowed only on the west side.

Pedestrian

Pedestrian volumes are low to moderate along most of 17th Street, but increasing to high at the corner of 17th/Castro and Market Streets and on the segment of 17th Street between Guerrero Street and South Van Ness Avenue. On 16th Street between Mission and Valencia Streets pedestrian volumes are moderate. Pedestrian volumes are low on Sanchez, Hoff, and Kansas Streets.

Bicycle

17th Street is designated as existing Bicycle Route 40 (Class III) in the westbound direction between Corbett Avenue and Castro Street and in both directions between Castro and Kansas Streets. Existing Bicycle Route 40 intersects existing Bicycle Route 49 (Class III) at Eureka Street, existing Bicycle Route 50 (Class II) at Market Street, existing Bicycle Route 47 (Class III) at Sanchez Street; existing Bicycle Route 45 (Class II) at Valencia Street, existing Bicycle Routes 25/33 (Class II) at Harrison Street, existing Bicycle Route 25 (Class II) at Potrero Avenue and existing Bicycle Route 123 (Class III) at Kansas Street. Street grades along 17th Street are relatively flat with grades of less than three percent with the exception of grades of five percent from Castro to Sanchez Streets, eight percent from Alabama to Bryant Streets, five percent from Bryant to Hampshire Streets, and seven percent from San Bruno Avenue to Kansas Street. Bicycle volumes are generally low to moderate along most of 17th Street, but increase to high on the segment between Guerrero Street and South Van Ness Avenue.

Loading

The land uses in the area vary from residential uses on the west side of the corridor to commercial and industrial use on the east side. Some of the commercial and industrial uses have off-street loading spaces but most do not. Loading demand is generally low on the west

side, moderate to high on the east side, especially in the mid-section of the corridor near Mission Street, where double-parking has been observed.[12]

PROJECT 2-5: BEALE STREET BICYCLE LANE, BRYANT STREET TO FOLSOM STREET

Roadways

Beale Street between Bryant and Folsom Streets is a two-lane north-south local street. It is also a major route to the Sterling Street on-ramp to I-80, so southbound traffic during the PM peak period is generally heavy.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

There are no transit lines on this section of Beale Street.

Parking

There is perpendicular unmetered on-street parking on the east side of Beale Street and parallel unmetered on-street parking on the west side of Beale Street between Folsom and Bryant Streets. Parking occupancy is typically high.

Pedestrian

Pedestrian volumes are generally low on this section of Beale Street.

Bicycle

Bicycle volumes are generally low on this section of Beale Street. There are no existing bicycle route designations on this section of Beale Street. Project 2-5 would connect to existing Bicycle Route 30 (Class II) at Folsom Street. Street grades along Project 2-5 are relatively flat with slopes below one percent.

[12] Field surveys were conducted by CHS Consulting on Thursday, August 23, 2007 during the midday.

Loading

Most of the buildings along this block have off-street loading spaces. There are only a few on-street yellow commercial freight loading spaces on the west side of Beale Street at Folsom Street. Due to the relatively high parking occupancy rate in the area, double-parking occurs occasionally.

PROJECT 2-6: DIVISION STREET BICYCLE LANES, 9TH STREET TO 11TH STREET

Roadways

Division Street between 9th and 11th Streets is a four-lane east-west major arterial underneath the elevated US 101 structure. This segment is part of the MTS Roadway Network and the CMP Network. Traffic volumes are generally high during the AM and PM peak periods.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour. Table V.2-6, p. V.A.3-57, summarizes these results.

TABLE V.2-6
CLUSTER 2 – PROJECT 2-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS[b]
21.	10th Street/Brannan Street/ Potrero Avenue/Division Street	Signal	72.0	E
54.	11th Street/Bryant Street/ Division Street	Signal	32.4	C

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions are highlighted in **bold**.

PM Peak Hour

Intersection 21: 10th Street/Brannan Street/Potrero Avenue/Division Street

During the weekday PM peak hour, the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection operates at an unacceptable level of service (LOS E), with 72 seconds of delay.

Intersection 54: 11th Street/Bryant Street/Division Street

During the weekday PM peak hour, the 11th Street/Bryant Street/Division Street intersection operates at an acceptable level of service (LOS C), with 32.4 seconds of delay.

Transit

Muni bus line 9 runs in both directions along Division Street between 11th Street and Potrero Avenue with approximately six buses per hour each way during the AM peak period and approximately eight buses per hour each way during the PM peak period. There is one eastbound bus stop in this section of Division Street located on the far-side of Bryant Street.

Parking

On-street parking is permitted on both sides of the street, and occupancy is typically high during the day.

Pedestrian

Pedestrian volumes are typically low in this area.

Bicycle

Division Street is designated as existing Bicycle Route 36 (Class III) with sharrows in each direction between 9th Street and 11th Street. Existing Bicycle Route 36 connects with existing Bicycle Route 25 (Class II) at 11th Street. Grades along Project 2-6 are less than one percent. Bicycle volumes are typically low along this portion of Division Street.

Loading

Most of the commercial and industrial uses have off-street loading areas, and on-street loading demand is generally low. There are no on-street yellow commercial freight loading spaces.

PROJECT 2-7: FREMONT STREET BICYCLE LANE, HARRISON STREET TO HOWARD STREET

Roadways

Fremont Street between Harrison and Howard Streets is a major arterial with two lanes in both directions. Fremont Street north of Folsom Street is one-way northbound. The Bay Bridge off-ramp connects in a diagonal alignment to the Fremont Street/Folsom Street intersection as well as to Fremont Street approximately mid-block between Howard and Folsom Streets. The Bay Bridge off-ramp at the Fremont Street/Harrison Street intersection is temporarily closed.

Traffic volumes are currently low to moderate during the AM peak period and expected to become moderate to high with the opening of the Bay Bridge off-ramps at the Fremont Street/Harrison Street intersection.

Traffic: Intersection Level of Service (LOS)

One study intersection is located within Project 2-7. Table V.2-7, p. V.A.3-59, summarizes these results.

TABLE V.2-7
CLUSTER 2 – PROJECT 2-7
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
48.	Fremont Street/Howard Street	Signal	36.5	D

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

PM Peak Hour

Intersection 48: Fremont Street/Howard Street

During the weekday PM peak hour, the Fremont Street/Howard Street intersection operates at an acceptable level of service (LOS D), with 36.5 seconds of delay.

Transit

Muni bus lines 10 and 76 operate northbound along Fremont Street for the one block between Howard and Folsom Streets. Muni bus line 10 runs approximately four buses per hour northbound during the AM and PM peak periods. Muni bus line 76 operates only on weekends. Bus stops along Project 2-7 for these Muni bus lines are located on Fremont Street at Folsom and Howard Streets. GGT buses (18, 26, 26, 38, 44, 54, 56, 58, 70/80, 72, 74) also operate northbound along this section of Fremont Street in the northbound direction with approximately 25 buses per hour in the PM peak period. The GGT bus stop is located on Fremont Street at Folsom.

Parking

On-street parking is generally permitted and regulated by parking meters on both sides of Fremont Street between Howard and Harrison Streets with the exception of the block between

Howard and Folsom Streets where parking is not allowed on the west side of Fremont Street. Overall parking occupancy is generally moderate.

Pedestrian

Pedestrian volumes are generally low on this segment of Fremont Street.

Bicycle

There are no existing bicycle route designations in this section of Fremont Street. Project 2-7 would connect to existing Bicycle Route 30 (Class II) at Folsom Street. Street grades along Project 2-7 are approximately seven percent. Bicycle volumes are generally low on this segment of Fremont Street.

Loading

There are approximately two on-street yellow commercial freight loading spaces on this block of Fremont Street. Loading activity is generally low because entrances to most of the buildings on the west side are along side streets and the building on the east side of Fremont Street has off-street loading facilities.

PROJECT 2-8: HOWARD STREET BICYCLE LANE, EXTENSION AT 9TH STREET

Roadways

Howard Street at 9th Street is a one-way westbound major arterial with four travel lanes and is part of the MTS Roadway Network and the CMP Network. Traffic volumes are high during the PM peak period and low to moderate at other times of the day.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

There are no transit lines on Howard Street at 9th Street.

Parking

On-street parking is permitted and regulated by parking meters on both sides of the street; and parking occupancy is relatively high.

Pedestrian

Pedestrian volumes are generally moderate in this area during the midday and PM peak period.

Bicycle

Howard Street is designated as existing Bicycle Route 30 (Class II) in the westbound direction. The bicycle lane terminates approaching 9th Street and sharrows are installed on the through traffic lane at the approach to the 9th Street intersection. Street grades along Project 2-8 are approximately three percent. Bicycle volumes are typically moderate in this area except during the PM peak period when they are high.

Loading

The short extension at 9th Street onto Howard Street includes a gas station on the north side with no yellow commercial freight loading spaces. Loading activities associated with the gas station are performed off the street. There is no on-street loading activity along Project 2-8.

PROJECT 2-9: HOWARD STREET BICYCLE LANE, THE EMBARCADERO TO FREMONT STREET

Roadways

Howard Street is a two-way, four-lane east-west major arterial between Fremont Street and The Embarcadero and a one-way westbound street west of 1st Street. It is part of the MTS Roadway Network and the CMP Network. Traffic volumes are high during the AM and PM peak periods.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour. Table V.2-7, p. V.A.3-59, summarizes these results.

PM Peak Hour

Intersection 48: Fremont Street/Howard Street

During the weekday PM peak hour, the Fremont Street/Howard Street intersection operates at an acceptable level of service (LOS D), with 36.5 seconds of delay.

Transit

Muni buses (lines 1, 20, 41, 30X, and 81X), Golden Gate Transit buses (lines 10, 70/80, 72, 73, and 76), and SamTrans buses (lines KX and 391) run along this section of Howard Street. There is an eastbound bus stop between Main and Beale Streets for Muni bus lines 1, 20, and 41 and a westbound bus stop at Fremont Street for GGT buses.

Parking

On-street parking is generally permitted along Howard Street and regulated by parking meters. There are Tow-Away zones on the north side of Howard Street between Fremont and Main Streets during the PM peak period (4:00 p.m. to 6:00 p.m.) and between Beale and Fremont Streets during the AM peak period (7:00 a.m. to 9:00 a.m.). Parking occupancy is generally high.

Pedestrian

Pedestrian volumes in the area are moderate to high during midday and the PM peak period.

Bicycle

Howard Street is designated as existing Bicycle Route 30 (Class II) in the westbound direction. Existing Bicycle Route 30 connects to existing Bicycle Route 5 (Class II) at The Embarcadero. Street grades along Project 2-9 are below one percent.

Loading

There are on-street yellow commercial freight loading spaces along this segment of Howard Street between Fremont and Beale Streets and between Main and Spear Streets. Some of the buildings along this segment of Howard Street have off-street loading spaces. In general, on-street loading demand for the commercial uses in this segment is accommodated by the available on-street parking spaces; occasional double parking was observed.[13]

PROJECT 2-10: MARKET STREET AND VALENCIA STREET INTERSECTION IMPROVEMENTS

Roadways

The intersection at Market and Valencia Streets is a signalized T-intersection with a median along Market Street. At this intersection, Market Street has a signalized left-turn lane in the

[13] Field surveys were conducted by CHS Consulting on Thursday, September 6, 2007 during the midday.

westbound direction onto Valencia Street, but traffic on northbound Valencia Street can only turn right onto Market Street. Traffic volumes are generally moderate.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line 26 runs northbound on Valencia Street and makes a right turn onto Market Street in the eastbound direction. Muni F--Market streetcar line runs along Market Street on a shared right-of-way at Valencia Street. There are no transit stops at this intersection.

Parking

On-street parking is not permitted in the vicinity of this intersection.

Pedestrian

Pedestrian volumes are generally moderate in this area.

Bicycle

Bicycle volumes are high in the eastbound direction during the AM peak hour and in the westbound direction during the PM peak hour. Bicyclists often merge with westbound traffic to turn left onto Valencia Street. Market Street is designated as existing Bicycle Route 50 (Class II). Existing Bicycle Route 50 intersects existing Bicycle Route 45 at Valencia Street (Class II) and Octavia Boulevard (Class III). Street grades along Project 2-10 are flat.

Loading

There are no yellow commercial freight loading spaces at this intersection. Due to the lack of available parking for loading activities, occasional truck parking on the sidewalk was observed.[14]

[14] Field surveys were conducted by CHS Consulting on Thursday, September 20, 2007 during the midday.

PROJECT 2-11: MARKET STREET BICYCLE LANES, 17TH STREET TO OCTAVIA BOULEVARD

Roadways

Market Street between 17th Street and Octavia Boulevard is a major arterial with four to six travel lanes and a landscaped median. This segment is part of the MTS Roadway Network and the CMP Network. Traffic volumes are moderate to high during the AM and PM peak periods.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the AM and PM peak hour. Table V.2-8, p. V.A.3-64, and Table V.2-9, p. V.A.3-64, summarize these results for the AM and PM peak hours respectively.

TABLE V.2-8
CLUSTER 2 – PROJECT 2-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY AM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
40.	Octavia Boulevard/Market Street	Signal	>80	F
52.	Church Street/Market Street/14th Street	Signal	>80	F

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

TABLE V.2-9
CLUSTER 2 – PROJECT 2-11
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
40.	Octavia Boulevard/Market Street	Signal	41.9	D
52.	Church Street/Market Street/14th Street	Signal	52.2	D

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

Intersection 40: Octavia Boulevard/Market Street

During the weekday AM peak hour, the Octavia Boulevard/Market Street intersection operates at an unacceptable level of service (LOS F), with more than 80 seconds of delay.

Intersection 52: Church Street/Market Street/14th Street

During the weekday AM peak hour, the Church Street/Market Street/14th Street intersection operates at an unacceptable level of service (LOS F), with more than 80 seconds of delay.

Intersection 40: Octavia Boulevard/Market Street

During the weekday PM peak hour, the Octavia Boulevard/Market Street intersection operates at an acceptable level of service (LOS D), with 41.9 seconds of delay.

Intersection 52: Church Street/Market Street/14th Street

During the weekday PM peak hour, the Church Street/Market Street/14th Street intersection operates at an acceptable level of service (LOS D), with 52.2 seconds of delay.

Transit

Muni F–Market streetcar line in the center lane with approximately 10 cars per hour each way during the AM and PM peak periods. The Muni F-Market streetcar stops in the center lane to load and unload passengers at a transit island.

Muni bus line 37 runs westbound between Church and Diamond Streets and eastbound between Eureka and Church Streets, with approximately four buses each way during the AM and PM peak periods. There are westbound bus stops at the far side of Sanchez and Noe Streets. There is one eastbound bus stop on the near side of Sanchez Street in the right-turn lane before buses make a right turn onto 15th Street. Observations show that buses generally pick up and drop off passengers at the stops at an angle without being completely parallel to the curb.[15]

Parking

On-street parking is generally permitted on both sides of the street and is regulated by parking meters.

Pedestrian

Pedestrian volumes are low to moderate near Octavia Boulevard and moderate to high between Church and 17th Streets.

[15] Field surveys were conducted by CHS Consulting on Thursday, September 20, 2007 during the PM peak.

Bicycle

Bicycle volumes are high in the eastbound direction during the AM peak hour and in the westbound direction during the PM peak hour. Market Street is designated as existing Bicycle Route 50 (Class II) between Octavia Boulevard and 17th Street. Existing Bicycle Route 50 intersects with: existing Bicycle Route 40 (Class III) at 17th Street; existing Bicycle Route 47 (Class III) at Sanchez Street; existing Bicycle Route30 at both 14th Street (Class II/III) and Duboce Streets (Class I); and existing Bicycle Route 45 (Class III) at Octavia Boulevard. Street grades along Project 2-11 are approximately three percent.

Loading

There are approximately 12 on-street yellow commercial freight loading spaces on Market Street between Octavia Boulevard and Laguna Street and between Church and Castro Streets. Deliveries to the buildings along Market Street are typically made using these on-street loading spaces. Occasional double parking was observed.[16]

PROJECT 2-12: MARKET STREET BICYCLE LANES, OCTAVIA BOULEVARD TO VAN NESS AVENUE

Project 2-12 was implemented on May 15, 2006 prior to the Bicycle Plan injunction; as such, post-project implementation conditions describe what is on the ground today and are analyzed under Existing plus Project and Cumulative plus Project conditions. Pre-project conditions describe what existed before the implementation of Project 2-12 and are analyzed under Existing and Cumulative conditions.

Roadways

Market Street between Octavia Boulevard and Van Ness Avenue is a major arterial with four to six travel lanes and an exclusive eastbound transit lane between Van Ness Avenue and Brady Street. This segment is part of the MTS Roadway Network and the CMP Network. Traffic volumes are generally moderate to high along this segment of Market Street.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the AM and PM peak hour. Table V.2-10, p. V.A.3-67, and Table V.2-11, p. V.A.3-67, below summarize these results for the AM and PM peak hours respectively.

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[16] Field surveys were conducted by CHS Consulting on Thursday, September 20, 2007 during the midday.

TABLE V.2-10
CLUSTER 2 – PROJECT 2-12
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY AM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
40.	Octavia Boulevard/Market Street	Signal	>80	F

Source: Wilbur Smith Associates, October 2008
Note:
a. Delay in seconds per vehicle.

TABLE V.2-11
CLUSTER 2 – PROJECT 2-12
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
40.	Octavia Boulevard/Market Street	Signal	41.9	D

Source: Wilbur Smith Associates, October 2008
Note:
a. Delay in seconds per vehicle.

Intersection 40: Octavia Boulevard/Market Street

During the weekday AM peak hour, the Octavia Boulevard/Market Street intersection operates at an unacceptable level of service (LOS F), with more than 80 seconds of delay.

Intersection 40: Octavia Boulevard/Market Street

During the weekday PM peak hour, the Octavia Boulevard/Market Street intersection operates at an acceptable level of service (LOS D), with 41.9 seconds of delay.

Transit

The Muni F-Market streetcar runs in both directions along the entire segment in the left lane, mostly on a shared right-of-way and on a small section that has an exclusive right-of-way. Muni bus lines 6, 7, 71, and 71L operate on most of the Project 2-12 alignment but turn on Haight Street when traveling in the westbound direction one block east of Octavia Boulevard. When traveling eastbound, these Muni bus lines enter Market Street from Page Street, two blocks east of Octavia Boulevard. Muni bus line 26 runs only in the eastbound direction between Valencia Street and Van Ness Avenue. Transit volumes are is very high on this section

of Market Street. There are approximately 35 eastbound buses per hour and 32 westbound buses per hour. Transit stops are located along boarding islands in the center of the street.

Parking

On-street parking was generally permitted and metered on both sides of the street between 12th Street and Octavia Boulevard under "pre-project" conditions. However, parking was prohibited by tow-away restrictions during the AM peak period on the south side of Market Street, and during the PM peak period on the north side of Market Street. There is currently a truck-only bay on the north side of Market Street between Van Ness Avenue and Franklin Street in which trucks with at least six wheels are permitted to park with a 30-minute limit.

Under "post-project implementation" conditions, on-street parking was removed on the north side of Market Street between Octavia Boulevard and Gough Street and on the south side between Brady and 12th Streets. Class II bicycle lanes were installed along this segment, except for the south side between Valencia and Gough Streets, which has sharrows in the curb lane.

Pedestrian

Pedestrian volumes are generally low to moderate towards Octavia Boulevard and high at the Van Ness Avenue intersection.

Bicycle

Bicycle volumes are high in the eastbound direction during the AM peak period and in the westbound direction during the PM peak period. Market Street is designated as existing Bicycle Route 50 (Class II/III). Existing Bicycle Route 50 intersects with existing Bicycle Route 45 (Class III) at Octavia Boulevard. Grades along Project 2-12 range are relatively flat with slopes below five percent.

Loading

This segment of Market Street has mostly retail and commercial uses. On-street yellow commercial freight loading spaces are located on the north side of Market Street. Occasional truck-parking on the sidewalks or in the curb lane was observed during midday.[17]

[17] Field surveys were conducted by CHS Consulting on Thursday, September 20, 2007 during the midday.

PROJECT 2-13: MCCOPPIN STREET BICYCLE PATH, MARKET STREET TO VALENCIA STREET

Roadways

McCoppin Street is a local street in the east-west direction that terminates east of Valencia Street. A bicycle path connects the terminus of McCoppin Street to Market Street. Traffic volumes are very low.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

There are no transit lines on this section of McCoppin Street.

Parking

As part of the Central Freeway Project, four parking spaces were removed from the north side of McCoppin Street between Valencia Street and the western terminus of McCoppin Street, and parking spaces were added to the south side of this block of McCoppin Street by converting parallel to perpendicular on-street parking. Parking occupancy is typically high.

Pedestrian

Pedestrian volumes are generally low.

Bicycle

McCoppin Street is designated as existing Bicycle Routes 30, 45, and 545. Street grades along Project 2-13 are approximately nine percent. Bicycle volumes are generally low.

Loading

This short segment of McCoppin Street has a deli on the north side and a truck rental facility on the south side. Their loading demand is accommodated by the on-street parking spaces on the south side of the street. There are no on-street yellow commercial freight loading spaces.

PROJECT 2-14: MCCOPPIN STREET BICYCLE LANE, GOUGH STREET TO VALENCIA STREET

Roadways

McCoppin Street between Gough and Valencia Streets is an east-west local street with two westbound lanes, one eastbound lane, and a striped median. Traffic volumes are generally low.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line 26 runs westbound on McCoppin Street between Gough and Valencia Streets with approximately three buses per hour.

Parking

On-street parking is permitted on both sides of McCoppin Street between Gough and Valencia Streets, and parking occupancy is generally high.

Pedestrian

Pedestrian volumes are typically low.

Bicycle

McCoppin Street is designated as existing Bicycle Route 30 (Class III). Existing Bicycle Route 30 intersects with existing Bicycle Routes 45 (Class II) and 545 (Class III) at Valencia Street. Street grades along Project 2-14 are approximately two percent.

Loading

This segment has mostly residential uses with some commercial uses, and their loading demand is generally accommodated by the available on-street parking spaces.

PROJECT 2-15: OTIS STREET BICYCLE LANE, GOUGH STREET TO SOUTH VAN NESS AVENUE

Roadways

Otis Street between South Van Ness Avenue and Gough Street is a one-way westbound local street with four travel lanes. Traffic volumes are generally moderate to high.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus lines 14, 14L, 49, and 26 run westbound along this portion of Otis Street with approximately 20 buses per hour during the AM and PM peak period. There is one westbound bus stop on Otis Street; all bus lines stop at this location with the exception of Muni bus line 14L.

Parking

On-street parking is permitted on both sides of the street and is regulated by parking meters; parking occupancy is generally high.

Pedestrian

Pedestrian volumes are generally low.

Bicycle

Otis Street is designated as existing Bicycle Route 30 (Class III with wide curb lanes) between South Van Ness Avenue and Gough Street. Street grades along Project 2-15 are flat. Bicycle volumes are low to moderate.

Loading

There are active commercial uses on the north side of Otis Street. Most of the loading deliveries are made using the on-street yellow commercial freight loading spaces; loading occupancy is generally high.

PROJECT 2-16: TOWNSEND STREET BICYCLE LANES, 8TH STREET TO THE EMBARCADERO

Roadways

Townsend Street between 8th Street and The Embarcadero is an east-west street with two travel lanes (one lane in both directions) between 4th and 8th Streets and between The Embarcadero and 2nd Street. The section of Townsend Street between 2nd and 4th Streets has two travel lanes in both directions. This segment is part of the MTS Roadway Network and the CMP Network. Traffic volumes are moderate to high east of 4th Street and generally moderate west of 4th Street during the AM and PM peak periods.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour. Table V.2-12 , p. V.A.3-72, summarizes these results.

Intersection 6: 2nd Street/Townsend Street

During the weekday PM peak hour, the 2nd Street/Townsend Street intersection operates at an acceptable level of service (LOS B), with 13.8 seconds of delay.

Intersection 14: 7th Street/Townsend Street

During the weekday PM peak hour, the 7th Street/Townsend Street intersection operates at an acceptable level of service (LOS C), with 25.4 seconds of delay.

Intersection 15: 4th Street/Townsend Street

During the weekday PM peak hour, the 4th Street/Townsend Street intersection operates at an acceptable level of service (LOS C), with 21 seconds of delay.

TABLE V.2-12
CLUSTER 2 – PROJECT 2-16
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS[b]
6	2nd Street/Townsend Street	Signal	13.8	B
14	7th Street/Townsend Street	Signal	25.4	C
15	4th Street/Townsend Street	Signal	21	C
16	3rd Street/Townsend Street	Signal	38.8	D
17	6th Street /Brannan Street	Signal	**>80**	**F**

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Intersection 16: 3rd Street/Townsend Street

During the weekday PM peak hour, the 3rd Street/Townsend Street intersection operates at an acceptable level of service (LOS D), with 38.8 seconds of delay.

Intersection 17: 6th Street/Brannan Street

During the weekday PM peak hour, the 6th Street/Brannan Street intersection operates at an unacceptable level of service (LOS F), with more than 80 seconds of delay.

Transit

Muni bus lines 10, 19, 30, 45, 47, 80X, 82X, and 108 operate on portions of Townsend Street between 8th Street and The Embarcadero. Muni bus lines 80X, and 82X run only during the AM peak period. Muni bus line 108 only operates on Townsend Street in the PM peak period. Muni bus line 10 has the greatest coverage from 8th Street to 2nd Street. Muni bus line 19 runs eastbound on one block of Townsend Street between 8th and 7th Streets. Muni bus line 47 operates westbound on one block of Townsend between 4th and 5th Streets and Muni bus lines 30, 45, and 108 operate eastbound for one block between 4th and 3rd Streets. Muni bus line 19 is on Townsend Street for one block eastbound between 8th and 7th Streets. The greatest concentration of transit can be found between 3rd and 4th Streets (lines 10, 30, 45, 80X, 82X, and 108), with a combined frequency of approximately 6 westbound and 22 eastbound buses per hour during the AM peak period and 6 westbound and 30 eastbound buses per hour during the PM peak period. Muni bus lines 30 and 45 use the south side of Townsend Street between 3rd and 4th Streets as a layover area. There is a Caltrain Station on the southwest corner of the 4th Street/Townsend Street intersection with entrances from both 4th and Townsend Streets. Caltrain provides passenger rail service between San Francisco and San Jose.

Parking

There is perpendicular or angled on-street parking on both sides of the street between 4th and 7th Streets and between The Embarcadero and 2nd Street. There is on-street metered parking between 7th and 8th Streets. Overall, parking occupancy is generally high. The portions of Townsend Street that have perpendicular or angled parking do not have sidewalks.

Pedestrian

Pedestrian volumes are generally moderate to slightly higher during the AM and PM peak periods as well as during the midday between 2nd and 4th Streets and between 7th and 8th Streets. Because there are no sidewalks along Townsend Street, pedestrians frequently walk in the street.

Bicycle

Townsend Street is designated as existing Bicycle Route 36 (Class III with a wide curb lane between 3rd and 8th Streets/Class III between 3rd Street and The Embarcadero). Route 36 intersects existing Bicycle Route 23 (Class II) at 8th and 7th Streets, existing Bicycle Route 19 (Class III) at 5th Street, existing Bicycle Route 536 (Class III) at 3rd Street, existing Bicycle Route 11 (Class III) at 2nd Street, and existing Bicycle Route 5 (Class II) at The Embarcadero. Street grades along Project 2-16 are flat with slopes below one percent. Bicycle volumes are generally moderate with higher volumes during the AM and PM peak periods and midday between 2nd and 4th Streets and between 7th and 8th Streets.

Loading

On-street yellow commercial freight loading spaces on Townsend Street are located mostly on the north side of the street and are restricted to loading activities between 7:00 a.m. and 6:00 p.m. There is a recessed taxi loading zone with room for approximately four taxis located on Townsend Street just west of 4th Street. Due to the proximity of the main entrance to the Caltrain Station, there is occasional passenger loading at this location. Passenger transfers between Caltrain and Muni are typically made at the 4th Street bus stops or at the Muni Metro stop at the intersection of 4th Street/King Street.

CLUSTER 3: CIVIC CENTER/WESTERN ADDITION AREA

This section presents the project-level transportation impact analysis conducted for the near-term bicycle route network improvement projects (near-term improvements) within the Cluster 3 area, including a description of the near-term improvements, their location and existing traffic, transit, parking, pedestrian, bicycle and loading conditions in the area. 2025 Cumulative conditions with and without the near-term improvement alternatives, any potential transportation impacts of the near-term improvements and possible mitigation and improvement measures are also discussed and analyzed.

PROJECT LOCATIONS

Cluster 3 is located near the center of San Francisco. It is generally bounded by Pacific Avenue to the north, Locust and Clayton Streets to the west, and Market Street to the south. The eastern boundary is formed by Gough Street and Golden Gate Avenue. Many varied neighborhoods are contained within Cluster 3 including the Fillmore, Western Addition, Japantown, and Haight/Ashbury as well as the San Francisco Civic Center. In addition to the various residential

neighborhoods that would be served by these proposed bicycle improvements, Cluster 3 also contains important employment and business destinations.

Street grades vary through the cluster with the flattest terrain located in the Civic Center area. The existing bicycle route network, including the six near-term improvements, utilizes the flattest routes through the area.

All of the near-term improvements in Cluster 3 are part of the San Francisco Bay Area Regional Bikeway Network.

Six projects are included in the Cluster 3 area. Each project is identified below:

Project 3-1: Fell Street and Masonic Avenue Intersection Improvements

Project 3-1 would improve the intersection of Masonic Avenue and the Panhandle Pathway for bicyclists. This is an important segment of existing Bicycle Route 30 which parallels Fell Street and provides an east-west connection from The Embarcadero to Ocean Beach.

Project 3-2: Masonic Avenue Bicycle Lanes, Fell Street to Geary Boulevard

Project 3-2 intersects with Project 3-1 at Masonic Avenue/Fell Street and would improve bicycling along the Masonic Avenue corridor, which provides north-south access to the Golden Gate Bridge via the Presidio along existing Bicycle Route 55. Existing Bicycle Route 55 connects Crissy Field to Upper Market Street and Glen Park BART also providing a connection to the Presidio and the Geary Boulevard shopping district.

Project 3-3: McAllister Street Bicycle Lane, Market Street to Masonic Avenue

As part of existing Bicycle Route 20, Project 3-3 would provide a westbound connection across the entire cluster, linking Masonic Avenue and locations to the west with the Civic Center and Market Street areas. Existing Bicycle Route 20 intersects many north-south routes, offering connections to many parts of the City including the Civic Center, the University of San Francisco (USF), the Western Addition, the Richmond District and Golden Gate Park.

Project 3-4: Polk Street Bicycle Lane, Market Street to McAllister Street

Project 3-4 would fill an existing gap for northbound cyclists on the Polk Street corridor providing a new connection from Market Street to McAllister Street. Project 3-4 is included on existing Bicycle Route 25 which connects Aquatic Park to Visitation Valley while passing through the Civic Center, the Mission District, Bernal Heights, Bay View and serving the City's eastern industrial districts as well as Hunters Point, San Francisco 49er's stadium and San Mateo County.

Project 3-5: Scott Street Bicycle Lane, Fell Street to Oak Street

As part of existing Bicycle Route 47, Project 3-5 coincides with existing Bicycle Route 30 (the "Wiggle") connecting the Western Addition and Eureka Valley neighborhoods and providing the missing link between Oak and Fell Streets.

Project 3-6: The "Wiggle" Improvements, Duboce Avenue between Market and Steiner Streets, Steiner Street between Duboce Avenue and Waller Street, Waller Street between Steiner and Pierce Streets, Pierce Street between Waller and Haight Streets, Haight Street between Pierce and Scott Streets, and Scott Street between Haight and Fell Streets.

Project 3-6, commonly referred to as the "Wiggle", is also part of existing Bicycle Route 30. The "Wiggle" provides an extremely important connection between Market Street and the Panhandle linking upper Market Street and Duboce Park with Page Street and Alamo Square. Project 3-6 was implemented prior to the Bicycle Plan injunction.

PROJECT DESCRIPTION

The following paragraphs describe the six near-term improvements included within the Cluster 3 area. Project 3-6 was implemented prior to the Bicycle Plan injunction. The City was granted relief from the injunction to implement Project 3-1 and it was implemented as of September 16, 2008. Projects 3-1 and 3-3 have one design option; the remaining projects (Projects 3-2, 3-4, and 3-5) have two design options. Detailed drawings of existing and proposed lane striping and roadway geometry changes are included in Appendix B.

PROJECT 3-1: FELL STREET AND MASONIC AVENUE INTERSECTION IMPROVEMENTS

The Fell/Masonic intersection traffic signal phasing would be changed to provide exclusive phases for westbound Fell Street left turns and for Panhandle Pathway traffic. Pedestrians and bicyclists crossing the south leg of Masonic Avenue would receive the WALK/GREEN BIKE signal during the Fell Street through traffic phase. During the WALK/GREEN BIKE phase that allows pedestrians to cross Masonic Avenue on the south side of Fell Street, traffic on westbound Fell Street wishing to make a left turn onto southbound Masonic Avenue would receive a red left-turn arrow signal, restricting them from making this left turn. Before the Fell Street through phase, vehicles on Fell Street waiting to turn left onto Masonic Avenue would receive a green left-turn arrow, while pedestrians and bicyclists waiting to use the south crosswalk across Masonic Avenue would see a solid DON'T WALK/RED BIKE signal.

In response to the large number of reported collisions and in order to improve pedestrian and bicycle safety at the intersection of Fell Street and Masonic Avenue, the City requested relief from the injunction to implement Project 3-1 prior to the completion of the Bicycle Plan EIR. In May 2008, the court granted the City's motion to modify the injunction so as to allow implementation of the recommended safety improvements at the intersection of Fell and Masonic. SFMTA has implemented Project 3-1 as of September 16, 2008.

PROJECT 3-2: MASONIC AVENUE BICYCLE LANES, FELL STREET TO GEARY BOULEVARD

Project 3-2 would involve the installation of Class II and Class III bicycle facilities in both directions on Masonic Avenue between Fell Street and Geary Boulevard. Project 3-2 is divided into four segments.

Segment I would extend from Fell Street to Hayes Street and includes two design options:

- **Segment I Option 1**
  Segment I Option 1 would install a Class II bicycle lane in both directions by removing one travel lane in the northbound direction, and two travel lanes in the southbound direction. PM tow-away would be rescinded on the west side of the street, resulting in the increase of five parking spaces during the PM peak. A two-way center turn lane would also be installed.

- **Segment I Option 2**
  Segment I Option 2 would install Class II bicycle lanes in both directions by removing a travel lane in both directions, removing approximately six parking spaces, and rescinding the afternoon tow-away zone. This option would result in a gain of approximately five parking spaces during afternoon hours.

Segment II would extend from Hayes Street to Grove Street and includes two design options:

- **Segment II Option 1**
  Segment II Option 1 would install a center turn lane with floating bicycle lanes in both directions. During off-peak hours, there would be one travel lane in both directions. During the AM peak, there would be two travel lanes in the northbound direction, and one travel lane in the southbound direction. During the PM peak, there would be two travel lanes in the southbound direction, and one travel lane in the northbound direction. Existing tow-away restrictions would remain.

- **Segment II Option 2**
  Segment II Option 2 would convert one travel lane in both directions into a transit/bicycle-only lane from 7:00 a.m. to 6:00 p.m., Monday through Friday, by removing approximately 14 parking spaces during this time period. Segment II Option 2 would add sharrows[18] to the existing Class III bicycle route that would be in effect at all other times. Segment II Option 2 reduces the travel lanes and parking from 7:00 a.m. to 6:00 p.m., Monday through Friday only.

Segment III would extend from Grove Street to Anza/O'Farrell Streets and includes two design options:

- **Segment III Option 1**
  Segment III Option 1 would be similar to Segment II Option 1.

- **Segment III Option 2**
  Segment III Option 2 would be similar to Segment II Option 2, but would remove 107 parking spaces on both sides of the street.

Segment IV would extend from Anza/O'Farrell Streets to Geary Boulevard and includes two design options:

- **Segment IV Option 1**
  Segment IV Option 1 would install Class II bicycle lanes in both directions by removing a travel lane in one direction and approximately 15 parking spaces. This option would establish a "Tow-Away Lane Must Turn Right" regulation from 4:00 p.m. to 7:00 p.m., Monday through Friday.

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[18] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/ CAMUTCD-Part 9.pdf.

- **Segment IV Option 2**
  Segment IV Option 2 would install Class II bicycle lanes in both directions by removing approximately 25 parking spaces. This option does not remove any travel lanes.

PROJECT 3-3: MCALLISTER STREET BICYCLE LANE, MARKET STREET TO MASONIC AVENUE

Project 3-3 would involve the installation of Class II and Class III bicycle facilities in the westbound direction on McAllister Street between Market Street and Masonic Avenue. Project 3-3 is divided into three segments.

- **Segment I**
  Segment I would extend from Market Street to Franklin Street and would add sharrows to the existing Class III bicycle route in the westbound direction. The proposal for Segment I would not involve travel lane or parking removal.

- **Segment II**
  Segment II would extend from Franklin Street to Fillmore Street and would install a Class II bicycle lane in the westbound direction. The proposal for Segment II would not involve travel lane or parking removal. Project 3-3 would shift the existing centerline south by approximately two and one-half feet.

- **Segment III**
  Segment III would extend from Fillmore Street to Masonic Avenue and would add sharrows to the existing Class III bicycle route in the westbound direction. The proposal or Segment III would not involve travel lane or parking removal.

In addition, sharrows would be added to northbound Charles J. Brenham Place from Market Street to McAllister Street, and this block would be added to existing Bicycle Route #20. This block would aid in the connection from existing Bicycle Route #23 on 7th Street to the proposed improvements on McAllister Street.

PROJECT 3-4: POLK STREET BICYCLE LANE, MARKET STREET TO MCALLISTER STREET

Project 3-4 would involve moving a portion of the existing northbound Bicycle Route #25 from Market Street, Larkin Street, and McAllister Street onto Polk Street.

Project 3-4 would install a Class II bicycle lane in the northbound direction on Polk Street between Market Street and McAllister Street. A segment of this Class II bicycle lane would be contra-flow (it would allow northbound bicycle travel on an otherwise one-way southbound street). Polk Street is a one-way southbound street between Grove Street and Market Street.

Polk Street (Dr. Carlton B. Goodlett Place) is a two-way street between Grove Street and McAllister Street.

Project 3-4 would install a northbound Class II bicycle lane between McAllister Street and Grove Street by narrowing travel lanes. The existing angled parking on the east side of Polk Street would be converted from front pull-in to back-in.

The segment between Grove Street and Market Street includes two design options:

- **Option 1**
  Option 1 would establish a northbound contra-flow Class II bicycle lane on the east side of Polk Street from Market Street to Grove Street. This bicycle lane would be separated from traffic by a concrete median. The concreted median would have openings where truck loading docks currently exist on the east side of Polk Street north and south of Hayes Street. Option 1 would narrow travel lanes, narrow sidewalk and median widths on Polk Street near Market Street, remove 11 metered parking spaces, and remove one metered loading space. The existing white zone on the east side of Polk Street between Market Street and Hayes Street would be moved from the curb to the west side of the proposed median. Option 1 would remove approximately 12 parking spaces.

- **Option 2**
  Option 2 would convert the segment of Polk Street from Market Street to Hayes Street to two-way operation, narrow travel lanes, narrow sidewalk and median widths, and add a northbound travel lane on Polk Street between Market Street and Hayes Street. Northbound Polk Street traffic would be forced to turn left onto westbound Hayes Street, except for bicycle traffic. Option 2 would add sharrows to the new northbound travel lane between Market Street and Hayes Street, and add a northbound Class II bicycle lane approaching Hayes Street. One metered loading space would be removed. The design for Option 2 between Hayes Street and Grove Street would be the same as for Option 1, including the removal of 11 metered parking spaces. Option 2 would remove approximately 12 parking spaces.

PROJECT 3-5: SCOTT STREET BICYCLE LANE, FELL STREET TO OAK STREET

Project 3-5 would involve the installation of a Class II left-turn bicycle lane in the northbound direction on Scott Street between Oak Street and Fell Street. Project 3-5 includes two design options:

- **Option 1**
  Option 1 would add a northbound Class II left-turn bicycle lane by removing the left-turn lanes on northbound Scott Street approaching Fell Street and on southbound Scott Street approaching Oak Street. No parking spaces would be removed under Option 1.

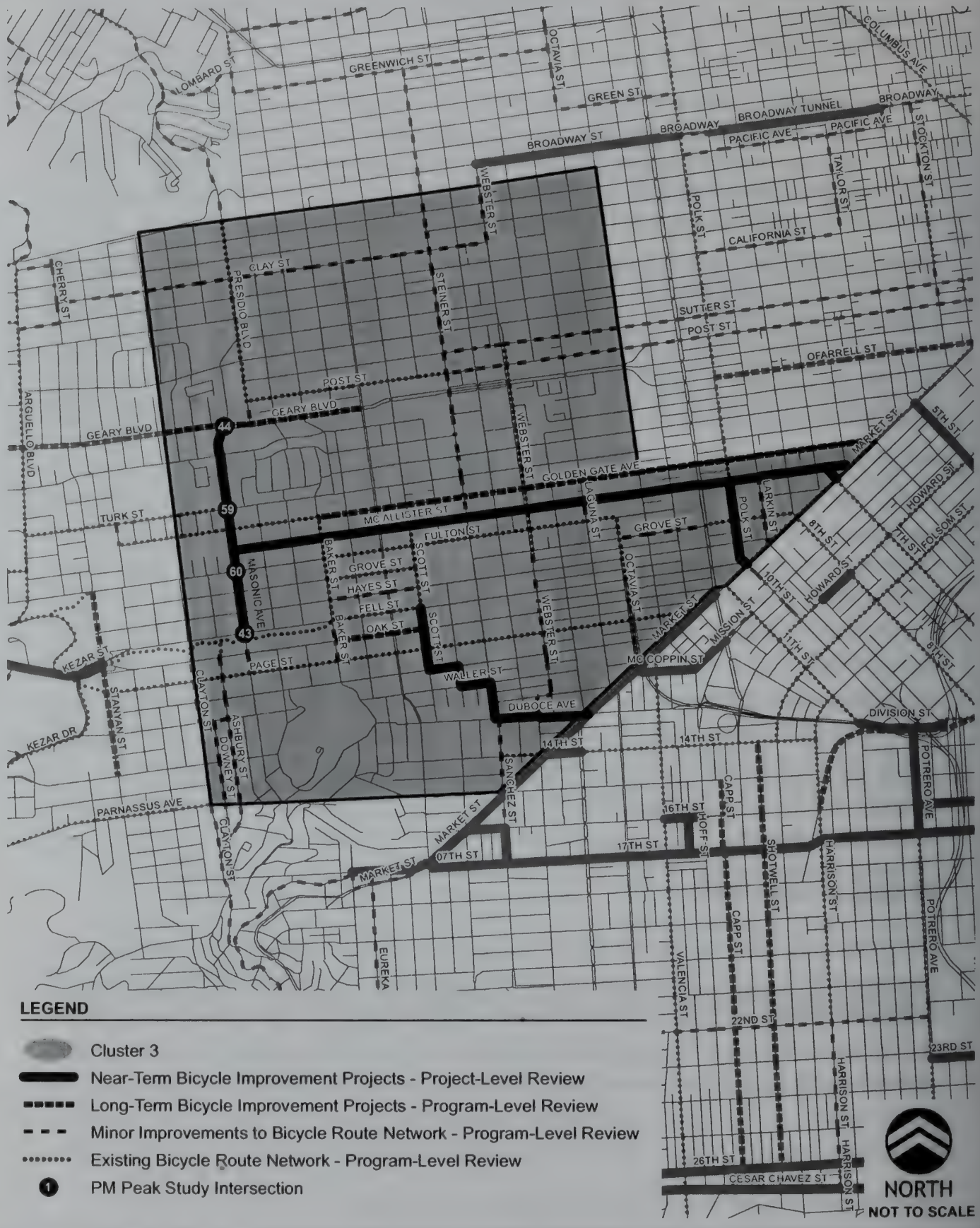
- **Option 2**
  Option 2 would add a northbound Class II left-turn bicycle lane by narrowing travel lanes and removing approximately three parking spaces from the west side of Scott Street between Fell Street and Oak Street. The existing left-turn lanes approaching Fell Street and Oak Street would not change under Option 2.

PROJECT 3-6: THE "WIGGLE" IMPROVEMENTS, DUBOCE AVENUE BETWEEN MARKET AND STEINER STREETS, STEINER STREET BETWEEN DUBOCE AVENUE AND WALLER STREET, WALLER STREET BETWEEN STEINER AND PIERCE STREETS, PIERCE STREET BETWEEN WALLER AND HAIGHT STREETS, HAIGHT STREET BETWEEN PIERCE AND SCOTT STREETS, AND SCOTT STREET BETWEEN HAIGHT AND FELL STREETS

Project 3-6 was implemented on May 13, 2006, prior to the Bicycle Plan injunction. Project 3-6 added sharrows in both directions to portions of existing Bicycle Route #30 in the following locations: Duboce Avenue between Market Street and Steiner Street, Steiner Street between Duboce Avenue and Waller Street, Waller Street between Steiner Street and Pierce Street, Pierce Street between Waller Street and Haight Street, and Haight Street between Pierce Street and Scott Street. On Haight Street between Pierce Street and Scott Street, travel lane widths were also modified. On Scott Street between Haight Street and Fell Street, sharrows were added to the existing Class III bicycle route in the southbound direction. On northbound Scott Street between Haight Street and Oak Street, a Class II bicycle lane was added to the existing Class III bicycle route. On northbound Scott Street at Oak Street, a bicycle box was added, and a "No Turn On Red" restriction was added. No travel lane or parking removals were required to implement Project 3-6.

PROJECT SETTING

This section provides a description of the existing transportation conditions along the near-term improvements in Cluster 3. Descriptions of the existing roadway access, traffic, transit, parking, pedestrian, bicycle and loading conditions are included. The study intersections for Cluster 3 are shown on Figure V.A.3-7, p. V.A.3-82. Figures showing the turning movement traffic volumes and lane configurations at those study intersections for Existing Conditions may be found within the transportation impact analysis discussion for Cluster 3 within the transportation impact study. LOS calculation sheets for those study intersections and transit



SOURCE: Wilbur Smith and Associates, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.3-7: CLUSTER 3 - STUDY AREA

delay calculation sheets for the affected transit routes may be found in the appendices of the transportation impact study.[19]

PROJECT 3-1: FELL STREET AND MASONIC AVENUE INTERSECTION IMPROVEMENTS

Roadways

The intersection at Fell Street and Masonic Avenue is signalized. Fell Street is one-way in the westbound direction, and southbound Masonic Avenue has two right-turn lanes onto Fell Street.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour.

Intersection 43: Masonic Avenue/Fell Street

During the weekday PM peak hour, the Masonic Avenue/Fell Street intersection operates at an acceptable level of service (LOS C), with 24.6 seconds of delay. Table V.3-1, p. V.A.3-83, summarizes these results.

TABLE V.3-1
CLUSTER 3– PROJECT 3-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
43.	Masonic Avenue/Fell Street	Signal	24.6	C

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

Transit

Muni bus line 43 runs in both directions along Masonic Avenue with approximately six buses per hour each way during the AM and PM peak periods. Muni bus lines 16AX and 16BX operate on Fell Street in the westbound direction only in the PM peak period with approximately eight buses per hour. There are no bus stops at this intersection.

[19] Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study.* This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File No 2007.0347E.

Parking

On-street parking is generally permitted on both sides of Fell Street and Masonic Avenue in the vicinity of the intersection with of exception of parking prohibitions on both sides of Masonic Avenue south of Fell Street and the south side of Fell Street from Masonic Avenue to 60 feet easterly to improve sight distance along westbound Fell Street. Parking occupancy is high.

Pedestrian

Pedestrian volumes along the Panhandle pathway are high during AM and PM periods and on weekends.

Bicycle

The Panhandle Pathway parallels Fell Street along the full length of the Panhandle between Baker and Stanyan Streets. The Pathway, designated as existing Bicycle Route 30 (Class I), crosses Masonic Avenue on the southern crosswalk at Fell Street. There have been numerous collisions between left-turning vehicles and bicyclists and pedestrians at this intersection. Masonic Avenue is designated as existing Bicycle Route 55 (Class III) which terminates at Fell Street. Bicycle volumes along the Panhandle Pathway are high during weekday AM (about 170 per hour) and PM peak periods and on weekends.

Loading

There are no loading activities or on-street yellow commercial freight loading spaces at this location.

PROJECT 3-2: MASONIC AVENUE BICYCLE LANES, FELL STREET TO GEARY BOULEVARD

Roadways

Masonic Avenue is a north-south major arterial with a mixture of residential, commercial and institutional uses. There are four travel lanes between Geary Boulevard and Grove Street and an additional lane in both directions between Grove and Fell Streets. Masonic Avenue between Fell Street and Geary Boulevard is part of the MTS Roadway Network and the CMP Network. Traffic volumes are high during the AM and PM peak periods, when parking tow-away restrictions provide additional travel lane capacity.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the AM and PM peak hour.

Table V.3-2, p. V.A.3-85, summarizes the intersection LOS results for the AM peak hour for Project 3-2.

TABLE V.3-2
CLUSTER 3 – PROJECT 3-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY AM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
59	Masonic Avenue/Turk Street	Signal	19.8	B
60	Masonic Avenue/Fulton Street	Signal	16.1	B

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

Intersection 59: Masonic Avenue/Turk Street

During the weekday AM peak hour, the Masonic Avenue/Turk Street intersection operates at an acceptable level of service (LOS B), with 19.8 seconds of delay.

Intersection 60: Masonic Avenue/Fulton Street

During the weekday AM peak hour, the Masonic Avenue/Fulton Street intersection operates at an acceptable level of service (LOS B), with 16.1 seconds of delay.

Table V.3-3, p. V.A.3-86, summarizes the intersection LOS results for the PM peak hour for Project 3-2.

Intersection 43: Masonic Avenue/Fell Street

During the weekday PM peak hour, the Masonic Avenue/Fell Street intersection operates at an acceptable level of service (LOS C), with 24.6 seconds of delay.

TABLE V.3-3
CLUSTER 3 – PROJECT 3-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
43.	Masonic Avenue/Fell Street	Signal	24.6	C
44.	Masonic Avenue/Geary Boulevard	Signal	38.2	D
59.	Masonic Avenue/Turk Street	Signal	19.5	B
60.	Masonic Avenue/Fulton Street	Signal	15.8	B

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

Intersection 44: Masonic Avenue/Geary Street

During the weekday PM peak hour, the Masonic Avenue/Geary Street intersection operates at an acceptable level of service (LOS D), with 38.2 seconds of delay.

Intersection 59: Masonic Avenue/Turk Street

During the weekday PM peak hour, the Masonic Avenue/Turk Street intersection operates at an acceptable level of service (LOS B), with 19.5 seconds of delay.

Intersection 60: Masonic Avenue/Fulton Street

During the weekday PM peak hour, the Masonic/Fulton Street intersection operates at an acceptable level of service (LOS B), with 15.8 seconds of delay.

Transit

Muni bus line 43 runs in both directions on this segment of Masonic Avenue along the entire length of Project 3-2 with approximately six buses per hour, each way, during the AM and PM peak periods. Muni bus line 31BX runs northbound between Turk Street and Geary Boulevard during the AM peak period with approximately six buses per hour, and southbound during the PM peak period with four buses per hour. Bus stops are located at Hayes Street, Fulton Street, Golden Gate Avenue, Turk Street and Geary Boulevard.

Parking

On-street parking is generally permitted on both sides along this corridor, but parking is prohibited on the east side of Masonic Avenue during the AM peak period (7:00 a.m. to

9:00 a.m.) and on the west side during the PM peak period (4:00 p.m. to 6:00 p.m.). On-street parking occupancy between Fell Street and Geary Boulevard during the midday varies from approximately 50 percent[20] throughout most of the corridor, particularly on the east side of Masonic Avenue, to approximately 70 to 80 percent on the northern part of the corridor. The corridor has a mixture of residential, commercial and institutional uses. There are four schools along the corridor: Lincoln University on the west side of Masonic Avenue between O'Farrell and Turk Streets, USF on the west side of Masonic Avenue between Anza and Fulton Streets, San Francisco Day School on the east side of Masonic Avenue at Golden Gate Avenue, and City College of San Francisco (CCSF), Adams Campus, on the west side of Masonic Avenue between Grove and Hayes Streets.

Pedestrian

Pedestrian volumes are generally low to moderate along Masonic Avenue, except near the schools during the period before and after school sessions. Pedestrian crosswalks at the intersections of Masonic Avenue with O'Farrell Street, Turk Street, and Golden Gate Avenue are designated as school crossings (yellow markings).

Bicycle

Masonic Avenue is designated as existing Bicycle Route 55 (Class III) in both directions between Fell Street and Geary Boulevard. Existing Bicycle Route 55 intersects existing Bicycle Route 30 (Class I) at the Panhandle Pathway on the south side of Fell Street; existing Bicycle Route 20 (Class II) at McAllister and Turk Streets; and existing Bicycle Route 20 (Class II) at Golden Gate Avenue. Street grades along Project 3-2 generally range from two to five percent, with a nine percent grade between Turk and Fulton Streets. Bicycle volumes on Masonic Avenue are generally low.

Loading

Masonic Avenue has several institutional uses (Lincoln University, San Francisco Day School, USF, CCSF, and Adam Campus) and a few small-scale retail uses. The two larger retail uses at Geary Boulevard and Fulton Street have off-street loading docks to accommodate their deliveries. There is only one on-street yellow commercial freight loading space at the southwest corner of Masonic Avenue and Hayes Street. There are also several white passenger loading zones along both sides of Masonic Avenue. In general truck loading and passenger drop-off

[20] Field surveys were conducted by CHS Consulting during the midday on Tuesday, September 11, 2007.

activities are accommodated by the on-street parking along Masonic Avenue. No apparent loading shortage (i.e. double parking) was observed during field observations.[21]

PROJECT 3-3: MCALLISTER STREET BICYCLE LANE, MARKET STREET TO MASONIC AVENUE

Roadways

McAllister Street between Market and Hyde Streets is a one-way westbound collector street with three travel lanes. Between Hyde Street and Masonic Avenue, McAllister Street is a three-lane street with two westbound lanes and one eastbound lane. Traffic volumes are moderate.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line 5 runs along the full length of Project 3-3, with the exception of the one block east of Masonic Avenue, where Muni bus line 5 is located on Central Avenue and Fulton Street to the west. The line operates in both directions, except for the westbound two block segment between Market and Hyde Streets. In addition, eight GGT lines (10, 54, 70/80, 72, 73, 76 and 93) run westbound along McAllister Street between Market and Webster Streets (GGT line 10) or between Market Street and Van Ness Avenue (remaining GGT bus lines). SamTrans bus line MX operates westbound for two blocks between Hyde and Polk Streets. East of Webster Street, there are approximately 15 westbound buses and 10 eastbound buses per hour during the AM peak period and approximately 27 westbound buses and 12 eastbound buses during the PM peak period. West of Webster Street, Muni bus line 5 operates on McAllister Street with approximately 10 buses per hour in each direction.

Parking

On-street parking is generally permitted on both sides of McAllister Street. East of Franklin Street, the parking spaces are metered. West of Franklin Street is included in the Residential Permit Parking zone R; without a permit, parking is limited to two hours.

[21] Field surveys were conducted by CHS Consulting during the midday on Tuesday, September 11, 2007.

Pedestrian

Pedestrian volumes are generally low along McAllister Street, except for the section between Market Street and Van Ness Avenue where pedestrian volumes are high.

Bicycle

Bicycle volumes are generally low, increasing to moderate near Polk Street. McAllister Street is designated as existing westbound Bicycle Route 20 (Class III) between Market Street and Masonic Avenue. Existing Bicycle Route 20 intersects existing Bicycle Route 55 (Class III) at Masonic Avenue; existing Bicycle Route 51 (Class II) at Baker Street; existing Bicycle Route 47 (Class III with wide curb lanes) at Scott Street; existing Bicycle Route 45 (Class III with wide curb lanes) at Steiner Street; existing Bicycle Route 345 (Class II) at Webster Street; existing Bicycle Route 25 (Class II) at Polk and Larkin Streets; and existing Bicycle Route 50 (Class III) at Market Street. Street grades along Project 3-3 are relatively flat (gradients below two percent) east of Webster Street. West of Webster Street, slopes increase to approximately four percent except for higher (six to nine percent) grades found between Masonic and Central Avenues, Broderick and Divisadero Streets; and Pierce and Fillmore Streets.

Loading

Loading activities along McAllister Street vary depending on the uses along this street. There are several segments of McAllister Street with active commercial uses which are dependent on the on-street truck loading/unloading zones for deliveries. These are located along the eastern portion of the study area (between Larkin and Market Streets), in the mid-section of the study area between Franklin and Gough Street and on the western end (near Masonic Avenue). In general, field observations[22] showed no apparent shortage of on-street yellow commercial freight loading spaces and trucks were able to find an on-street space for delivery/pick up activities.

PROJECT 3-4: POLK STREET BICYCLE LANE, MARKET STREET TO MCALLISTER STREET

Roadways

Polk Street is a two-way street with two southbound lanes and one northbound lane between McAllister and Grove Streets and a southbound one-way local street with two travel lanes between Market and Grove Streets. The street name changes from Polk Street to Dr. Carlton B.

[22] Field surveys were conducted by CHS Consulting during the midday on Tuesday, September 11, 2007.

Goodlett Place between Grove and McAllister Streets in front of City Hall. Traffic volumes are moderate to high during the peak commute periods.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line #21 runs in the southbound direction along Polk Street between Grove and Market Streets. There are no Muni bus stops within this segment. Approximately eight southbound buses per hour operate on this segment of Polk Street during the AM and PM peak periods.

Parking

On-street parking is permitted on the west side for use by City officials and metered at other locations on the street. Parking occupancy is generally moderate to high, particularly between McAllister and Grove Streets in front of City Hall.

Pedestrian

Pedestrian volumes are high in the vicinity of City Hall and at the Market Street intersection and generally low to moderate in the segment between Market and Grove Streets.

Bicycle

Polk Street is designated as existing Bicycle Route 25 with a bicycle lane (Class II) in the southbound direction. Existing Bicycle Route 25 intersects with existing Bicycle Route 50 (Class II) at Market Street and existing Bicycle Route 20 (Class II eastbound and Class III with wide curb lanes westbound) at Grove and McAllister Streets. Street grades along Project 3-4 are relatively flat with slopes less than one percent. Bicycle volumes are generally moderate in this area.

Loading

There a few major buildings within the study area: City Hall, Bill Graham Civic Auditorium, and Fox Plaza. City Hall and Fox Plaza have passenger drop-off zones on Polk Street; Fox Plaza has an off-street truck loading area accessible from Polk Street. Loading facilities for Bill Graham Civic Auditorium are located on Hayes Street. In general, loading activities are accommodated by the designated off-street and on-street loading areas. Occasional double

parking was observed in front of the City Hall and Fox Plaza, but usually for a very brief period.[23]

PROJECT 3-5: SCOTT STREET BICYCLE LANE, FELL STREET TO OAK STREET

Roadways

Scott Street between Oak Street and Fell Street is a two-lane north-south local street with left-turn pockets northbound onto Fell Street and southbound onto Oak Street. This segment is one block long. Traffic volumes are generally low.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

There are no transit lines in this section of Scott Street.

Parking

On-street parking is permitted on both sides of the street, and parking occupancy is moderate.

Pedestrian

Pedestrian volumes are generally low along Project 3-5.

Bicycle

Scott Street is designated as existing Bicycle Route 47 (Class III) with sharrows in both directions between Fell Street and Oak Street. Route 47 connects to westbound existing Route 30 (Class II) at Fell Street. The gradient on Project 3-5 is approximately four percent. Bicycle volumes are high during commute periods and on weekends as it is a major route to the Panhandle and Golden Gate Park. At other times bicycle volumes are generally low.

Loading

This short segment of Scott Street has residential uses with low on-street loading demand. There are no on-street yellow commercial freight loading spaces.

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[23] Field surveys were conducted by CHS Consulting during the midday on Tuesday, September 11, 2007.

PROJECT 3-6: THE "WIGGLE" IMPROVEMENTS, DUBOCE AVENUE BETWEEN MARKET AND STEINER STREETS, STEINER STREET BETWEEN DUBOCE AVENUE AND WALLER STREET, WALLER STREET BETWEEN STEINER AND PIERCE STREETS, PIERCE STREET BETWEEN WALLER AND HAIGHT STREETS, HAIGHT STREET BETWEEN PIERCE AND SCOTT STREETS, AND SCOTT STREET BETWEEN HAIGHT AND FELL STREETS

Project 3-6 was implemented on May 13, 2006 prior to the Bicycle Plan injunction; as such, post-project implementation conditions describe what is on the ground today and are analyzed under Existing and Cumulative plus Project conditions. Pre-project conditions describe what existed before the implementation of Project 3-6 and are analyzed under Existing and Cumulative conditions.

Roadways

The "Wiggle" is a route that consists of six streets, from the intersection of Market Street and Duboce Avenue to the intersection of Fell and Scott Streets. The route includes segments of Duboce Avenue and Steiner, Waller, Pierce, Haight, and Scott Streets.

Lane configurations and on-street parking was not changed from pre-project to post-project conditions. With implementation of Project 3-6, sharrows were added in both directions to portions of Duboce Avenue, Steiner Street, Waller Street, Pierce Street, Haight Street and Scott Street (southbound only). On northbound Scott Street between Haight Street and Oak Street, a Class II bicycle lane was added to the existing Class III bicycle route. On northbound Scott Street at Oak Street, a bicycle box was added, and a "No Turn On Red" restriction was added.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni light rail line N-Judah runs along Duboce Avenue between the Market Street tunnel and Duboce Park tunnel with approximately eight trains per hour in each direction during the AM and PM peak periods. Muni bus lines 6, 7, 71, and 71L run along Haight Street between Pierce and Scott Streets with approximately 22 buses per hour each way in the AM and PM peak periods. There is one eastbound bus stop at Pierce Street and a Muni light rail stop on Duboce Avenue just west of Church Street.

Parking

On-street parking is generally permitted on both sides of these streets. Occupancy is generally moderate to high.

Pedestrian

Pedestrian volumes along these streets are generally low, and relatively moderate at the intersection of Duboce Avenue and Steiner Street and at the intersection of Haight and Pierce Streets near the bus stop.

Bicycle

The "Wiggle" streets are all designated as existing Bicycle Route 30 (Class I from Market Street to Church Street, Class III with wide curb lanes on Steiner, Waller and Pierce Streets, and Class III on Haight Street), Class II northbound and Class III southbound on Scott Street between Haight and Oak Streets, Class III both directions on Scott Street between Fell and Oak Streets, existing Bicycle Route 350 (Class I and III), and existing Bicycle Route 47 (Class III with wide curb lanes on Scott Street). Under "post-project implementation" conditions, sharrows have been implemented on both sides of most streets along the "Wiggle". Bicycle volumes are moderate to high, particularly at the Page Street/Scott Street intersection. A bicycle box and a "No Turn On Red" restriction have also been added on Scott Street at the northbound approach to Oak Street. "The Wiggle" intersects existing Bicycle Route 50 (Class II) at Market Street, existing Bicycle Route 345 (Class III with wide curb lanes) at Church Street, existing Bicycle Route 47 (Class III) at Sanchez Street, existing Bicycle Route 32 (Class III with wide curb lanes) at Page Street, and existing Bicycle Route 30 (Class II westbound) at Fell Street. Street grades along Project 3-6 are relatively flat with slopes less than three percent.

Loading

This is mostly a residential area with some recreational and retail uses, all with a low on-street loading demand.

CLUSTER 4: MISSION BAY/HUNTERS POINT/BAYVIEW AREA

This section presents the project-level transportation impact analysis conducted for those near-term bicycle route network improvement projects (near-term improvements) within the Cluster 4 area, including a description of the near-term improvements, their location and existing traffic, transit, parking, pedestrian, bicycle and loading conditions in the area. 2025 Cumulative conditions with and without the near-term improvement alternatives, any potential

transportation impacts of the near-term improvements and possible mitigation and improvement measures are also discussed and analyzed.

PROJECT LOCATION

Cluster 4 is located in the southeastern corner of San Francisco. It is bounded by Mission Creek to the north, the San Francisco Bay to the east and the city limits to the south. The western boundary is formed by De Haro Street, 18th Street, and Indiana Street to Islais Creek. Below the creek, the western boundary follows a line approximately 1000 feet west of the 3rd Street alignment. The Mission Bay, Hunter's Point and Bayview neighborhoods are located within the cluster; popular destinations in the vicinity of Cluster 4 include the San Francisco Giants Ballpark, San Francisco Caltrain Depot, UCSF Mission Bay, and the San Francisco 49er's stadium. The terrain in Cluster 4 is relatively flat with some small hills in Hunter's Point.

The existing and proposed bicycle route network in Cluster 4 provides good coverage of the area particularly with the long-term improvements proposed for Candlestick and Hunter's Point. Five near-term improvements are proposed in Cluster 4 including segments of the San Francisco Bay Area Regional Bikeway Network and the San Francisco Bay Trail. These projects include two new routes on the City's existing bicycle route network and upgrades to three existing routes.

Five projects are included in the Cluster 4 area. Each project is identified below.

Project 4-1: 16th Street Bicycle Lanes, 3rd Street to Terry François Boulevard

Project 4-2: Cargo Way Bicycle Lanes, 3rd Street to Jennings Street

Projects 4-1 and 4-2 would add bicycle lanes along two new routes on the City's existing bicycle route network. Project 4-1 would extend the existing Bicycle Route 40 to intersect with existing Bicycle Route 5 and the San Francisco Bay Trail. Project 4-2 would also provide a new connection to existing Bicycle Route 5 and is designated as part of the San Francisco Bay Trail. Both of these projects, as well as, Project 4-3 are included on the San Francisco Bay Area Regional Bikeway Network.

Project 4-3: Illinois Street Bicycle Lanes, 16th Street to Cargo Way

Project 4-3 comprises a portion of existing Bicycle Route 5 which is an important north-south connection between The Embarcadero and the San Mateo County

line and would install bicycle lanes to this segment of the San Francisco Bay Trail.

Project 4-4: Innes Avenue Bicycle Lanes, Donahue Street to Hunters Point Boulevard

Project 4-4 would involve a combination of bicycle lanes and sharrows.[24] It is located on existing Bicycle Route 68 serving future development of the Hunters Point Naval Shipyard site.

Project 4-5: Mississippi Street Bicycle Lanes, 16th Street to Mariposa Street

Project 4-5 would fill a missing link with bicycle lanes for existing Bicycle Route 23 which extends from the Civic Center to Mission Bay.

PROJECT DESCRIPTION

The following paragraphs describe the five near-term improvements included within the Cluster 4 area. One design option is being proposed for Projects 4-1, 4-3, and 4-5; the remaining near-term improvements (Project 4-2 and 4-4) include two options. Detailed drawings of existing and proposed lane striping and roadway geometry changes are included in Appendix B.

PROJECT 4-1: 16TH STREET BICYCLE LANES, 3RD STREET TO TERRY FRANÇOIS BOULEVARD

Project 4-1 would add a new route to the City's existing bicycle route network on 16th Street between Illinois Street and Terry François Boulevard.[25]

Project 4-1 would involve the installation of Class II bicycle lanes in both directions on 16th Street between 3rd Street and Illinois Street by narrowing travel lanes. Class II bicycle lanes would be added in both directions on 16th Street between Illinois Street and Terry François Boulevard when that segment of 16th Street is constructed.

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[24] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/ CAMUTCD-Part 9.pdf.

[25] Bicycle lanes on 16th Street between 3rd Street and Terry François Boulevard were included in the Mission Bay Subsequent EIR (SEIR) dated September 17, 1988. However, the bicycle lanes included in the Mission Bay SEIR were proposed to be six feet in width. The bicycle lanes included in Project 4-1 are proposed to be 5 feet in width and so are included as part of this analysis.

Project 4-1 would not involve travel lane or parking removal.

PROJECT 4-2: CARGO WAY BICYCLE LANES, 3RD STREET TO JENNINGS STREET

Project 4-2 would add a new route to the City's existing bicycle route network.

Project 4-2 would involve the installation of Class I or Class II bicycle facilities on Cargo Way between 3rd Street and Jennings Street. The resulting bicycle facilities would connect to the existing Bay Trail at the eastern terminus of Cargo Way at Heron's Head Park. Project 4-2 includes two design options:

- **Option 1**
  Option 1 would install Class II bicycle lanes in both directions by removing approximately 160 under-utilized parking spaces on the south side of Cargo Way. Option 1 would not involve travel lane removal.

- **Option 2**
  Option 2 would involve the installation of a Class I two-way bicycle path on the south side of Cargo Way between Illinois Street and Jennings Street. Option 2 would not involve travel lane or parking removal.

  Both Options 1 and 2 would install a Class II left-turn bicycle lane on eastbound Cargo Way approaching Illinois Street and Amador Street.

PROJECT 4-3: ILLINOIS STREET BICYCLE LANES, 16TH STREET TO CARGO WAY

Project 4-3 would involve the installation of Class II bicycle lanes in both directions on Illinois Street between 16th Street and Cargo Way.

Project 4-3 would install Class II bicycle lanes in both directions on Illinois Street from 16th Street to Cargo Way, including a floating bicycle lane in the southbound direction between 18th and 19th Streets, by changing parking configurations. The existing perpendicular parking, mainly on the east side of the street, would be reconfigured to either back-in-angled parking or parallel parking. Project 4-3 would result in the loss of approximately 45 parking spaces on Illinois Street. Additional parking spaces would be provided on Tennessee Street, 22nd Street, and 24th Street, resulting in a net gain of approximately 99 parking spaces near the project area. One travel lane would be removed in each direction from 25th to Marin Streets. The proposed Class II bicycle lanes on Illinois Street would connect to the proposed bicycle facilities on Cargo Way via the recently completed Islais Creek Bridge.

PROJECT 4-4: INNES AVENUE BICYCLE LANES, DONAHUE STREET TO HUNTERS POINT BOULEVARD

Project 4-4 would involve the installation of Class II or Class III bicycle facilities in both directions on Innes Avenue between Donahue Street and Hunters Point Boulevard. Project 4-4 includes two design options:

- **Option 1**
  Option 1 would remove approximately 75 parking spaces on the south side of Innes Avenue from Hunters Point Boulevard to Earl Street, and install Class II bicycle lanes in both directions. From Earl Street to Donahue Street, Class II bicycle lanes would be installed by removing approximately 60 parking spaces and adding a planted median in the center of the roadway. There would be no travel lane removals associated with Option 1.

- **Option 2**
  Option 2 would be similar to Option 1, except for the segment from Hunters Point Boulevard to Earl Street, where sharrows would be added to the existing Class III bicycle route in both directions. There would be no parking or travel lane removals associated with Option 2 between Hunters Point Boulevard and Earl Street.

The two options described above are consistent with Department of Public Works (DPW) led Bayview Transportation Improvement Project (BTIP). The future lane configuration on Innes Avenue depends on whether a new football stadium for the San Francisco 49ers is built. If a new stadium is built, Innes Avenue could serve as an important access/egress route, and the Class II bicycle lanes proposed on Innes Avenue could be re-routed as either Class I or Class II bicycle facilities on a proposed new roadway (Hudson Street).

PROJECT 4-5: MISSISSIPPI STREET BICYCLE LANES, 16TH STREET TO MARIPOSA STREET

Project 4-5 would involve the installation of Class II bicycle lanes in both directions on Mississippi Street between 16th Street and Mariposa Street.

Class II bicycle lanes would be added by narrowing travel lanes. Project 4-5 would not require travel lane or parking removal.

PROJECT SETTING

This section provides a description of the existing transportation conditions along the near-term improvements in Cluster 4. Descriptions of the existing roadway access, traffic, transit, parking, pedestrian, bicycle and loading conditions are included. The study intersections for Cluster 4

are shown on Figure V.A.3-8, p. V.A.3-99. Figures showing the turning movement traffic volumes and lane configurations at those study intersections for Existing Conditions may be found within the transportation impact analysis discussion for Cluster 4 within the transportation impact study. LOS calculation sheets for those study intersections and transit delay calculation sheets for the affected transit routes may be found in the appendices of the transportation impact study.[26]

PROJECT 4-1: 16TH STREET BICYCLE LANES, 3RD STREET TO TERRY FRANÇOIS BOULEVARD

Roadways

16th Street between 3rd Street and Terry A. François Boulevard is currently under construction as part of the Mission Bay Plan.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

There are no transit lines along Project 4-1.

Parking

This portion of 16th Street is currently closed to traffic. Some parking is allowed for construction vehicles and site deliveries.

Pedestrian

Because there are no active land uses in this block, there are no pedestrians in this section of 16th Street at the present time. Some pedestrian traffic exists in the area related to construction activities. After the completion of the street as part of the Mission Bay Plan, 10-foot wide sidewalks would be constructed on both sides of the street.

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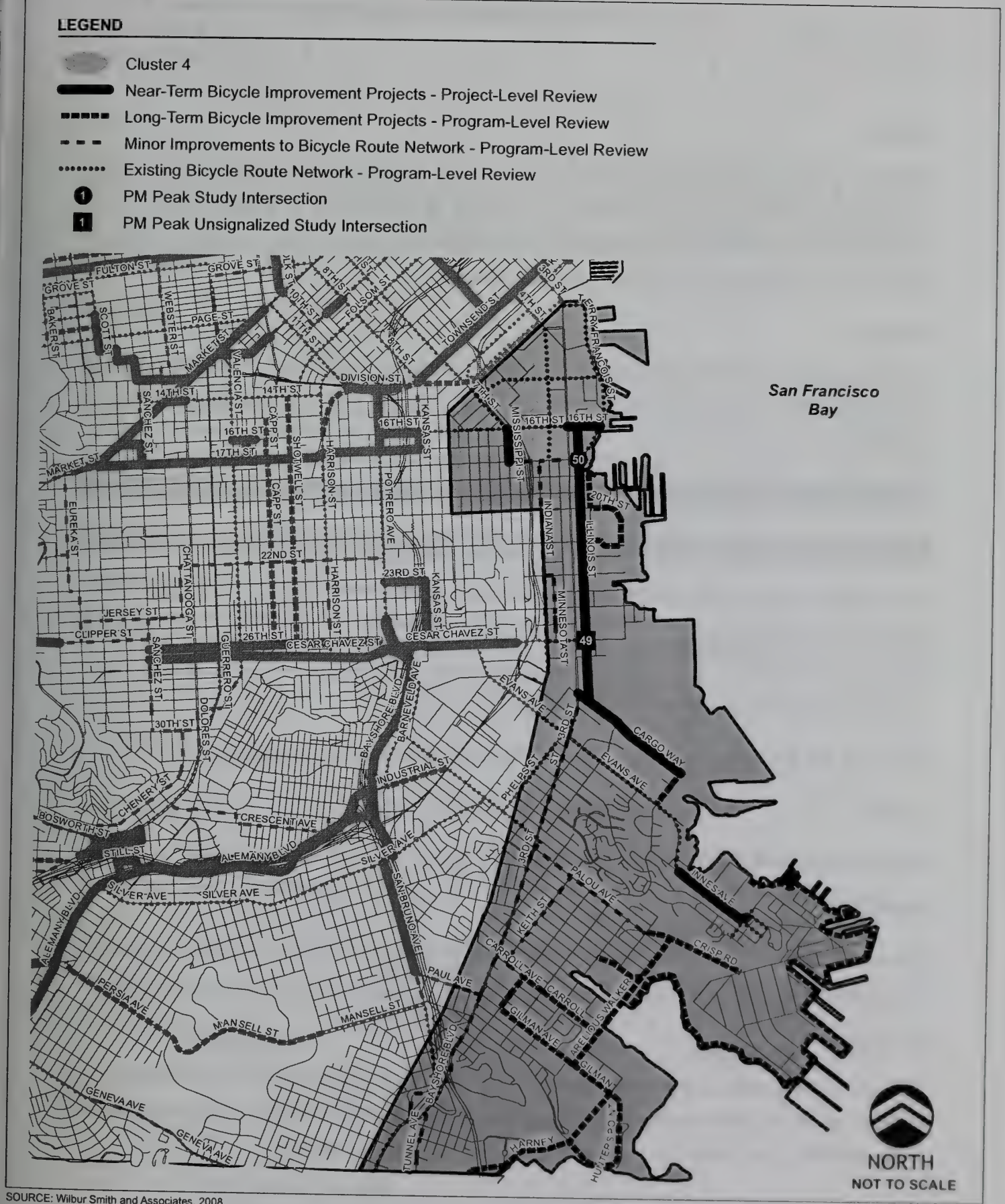
[26] Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study*. This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File No 2007.0347E.



SOURCE: Wilbur Smith and Associates, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.3-8: CLUSTER 4 - STUDY AREA

Bicycle

16th Street is designated as part of existing Bicycle Route 40 (Class II) in both directions west of 3rd Street. When extended east of 3rd Street, existing Bicycle Route 40 would intersect with existing Bicycle Route 5 (Class III) and the San Francisco Bay Trail at Terry François Boulevard. This route is flat with gradients of less than one percent.

Loading

Because both sides of 16th Street in this block are under construction, as part of the Mission Bay development, all current loading activity is related to construction supply deliveries and related operations.

PROJECT 4-2: CARGO WAY BICYCLE LANES, 3RD STREET TO JENNINGS STREET

Roadways

Cargo Way is a four-lane north-south secondary arterial road with a median, and is part of the MTS Roadway Network. Traffic volumes are moderate during the AM and PM peak periods and low at other times of the day.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

There are no transit lines in this section of Cargo Way.

Parking

On-street parking is permitted only on the south side of Cargo Way, and parking occupancy is generally low.

Pedestrian

There is no sidewalk on the north side of Cargo Way between 3rd and Mendell Streets. The effective sidewalk width of existing sidewalk is reduced by a line of mature street trees planted in the middle of the pedestrian right-of-way. Pedestrian volumes are low.

Bicycle

There are no existing bicycle routes in this section of Cargo Way. The project would intersect with existing Bicycle Route 7 at 3rd Street (Class III). A segment of the San Francisco Bay Trail is located on Cargo Way to the east of Jennings Street. Street grades on Project 4-2 are flat. Bicycle volumes are low.

Loading

There are few active land uses fronting this segment of Cargo Way. On the north side of Cargo Way there are freight rail tracks servicing the Port's south container terminal. The south side of Cargo Way is part of India Basin Industrial Park. All of the uses inside have off-street loading facilities. Thus, there is no on-street loading demand on this segment of Cargo Way and there are no designated yellow commercial freight loading spaces.

PROJECT 4-3: ILLINOIS STREET BICYCLE LANES, 16TH STREET TO CARGO WAY

Roadways

Illinois Street between 16th Street and Cargo Way is a two-lane north-south local street that connects to the newly constructed Islais Creek Bridge south of Marin Street. Traffic volumes are low.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour.

Two study intersections are included in Project 4-3 for the PM peak hour. Intersection Level of Service and average delay under Existing conditions is included in Table V.4-1, p. V.A.3-101.

TABLE V.4-1
CLUSTER 4 – PROJECT 4-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
49.	Illinois Street/César Chávez Street	Four-way stop	8.7	A
50.	Illinois Street/Mariposa Street/Terry François Boulevard	Signal	17.7	B

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Intersection 49: Illinois Street/César Chávez Street

During the weekday PM peak hour, the Illinois Street/César Chávez Street intersection operates at an acceptable level of service (LOS D or better), with 8.7 seconds of delay.

Intersection 50: Illinois Street/Mariposa Street/Terry François Boulevard

During the weekday PM peak hour, the Illinois Street/Mariposa Street/Terry François Boulevard intersection operates at an acceptable level of service (LOS D or better), with 17.7 seconds of delay.

Transit

Muni bus line 48 runs southbound for the two blocks between 20th and 22nd Streets with approximately five buses per hour each way during the AM and PM peak periods. There are no bus stops for Muni bus line 48 within these two blocks.

Parking

On-street parking is permitted on both sides of the street. Most of the corridor has parallel parking except along the east side of Illinois Street between 19th and 22nd Streets and between Marin Street and the Islais Creek Bridge. These blocks have perpendicular parking on the east side. Parking occupancy is high north of 25th Street and low south of 25th Street.

Pedestrian

Sidewalks exist intermittently on both sides of the street. Pedestrian volumes are low.

Bicycle

Illinois Street is designated as existing Bicycle Route 5 (Class III) in both directions between 16th Street and César Chávez Street. Existing Bicycle Route 5 intersects existing Bicycle Route 40 (Class III) at 16th Street; existing Bicycle Route 23/7 (Class III) at Mariposa; and existing Bicycle Route 60 (Class III) at César Chávez Street. Street grades along Project 4-3 are relatively flat with slopes of approximately two percent between 19th Street and 23rd Street and less than one percent along the remainder of Project 4-3. Bicycle volumes are generally low. Unused freight railroad tracks are located within the northbound lane.

Loading

Some yellow commercial freight loading spaces are provided on-street adjacent to buildings, while others have a substantial setback from the street curb. Since the land use in the area is

changing, most of these yellow commercial freight loading spaces are not being fully utilized. However, since on-street parking in this area is mostly unregulated, truck deliveries occur both in the loading docks as well as on-street.

PROJECT 4-4: INNES AVENUE BICYCLE LANES, DONAHUE STREET TO HUNTERS POINT BOULEVARD

Roadways

Innes Avenue between Donahue Street and Hunters Point Boulevard is a four-lane secondary arterial road. Traffic volumes are currently low.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line 19 runs in both directions along Innes Avenue between Hunters Point Boulevard and Donahue Street with approximately six buses per hour each way during the AM and PM peak periods. There are two bus stops, one at the entrance to the Hunters Point Shipyard and the other at the intersection with Hunters Point Boulevard.

Parking

On-street parking is generally permitted on Innes Avenue between Hunters Point Boulevard and Donahue Street; parking occupancy is very low.

Pedestrian

Pedestrian volumes in this area are very low.

Bicycle

Innes Avenue is designated as existing Bicycle Route 68 (Class III) between Hunters Point Boulevard and Donahue Street. West of Hunters Point Boulevard, existing Bicycle Route 68 has Class II bicycle lanes. Project 4-4 would not intersect with any other designated bicycle routes. Street grades on the Project 4-4 are relatively flat with slopes less than three percent. Bicycle volumes are low.

Loading

There are few active land uses along this segment of Innes Avenue. The residential, commercial and industrial development is concentrated on Innes Avenue, between Hunters Point Boulevard and Arelious Walker Drive, on the north side of the street. These uses have low demand for loading which can be accommodated with on-street parking spaces.

PROJECT 4-5: MISSISSIPPI STREET BICYCLE LANES, 16TH STREET TO MARIPOSA STREET

Roadways

Mississippi Street between 16th and Mariposa Streets is a two-lane north-south local street. Traffic volumes are moderate to high during the PM peak period.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

There are no transit lines along this section of Mississippi Street.

Parking

On-street parking is permitted on both sides of the street; parking occupancy is generally moderate to high.

Pedestrian

Pedestrian volumes are low along Project 4-5.

Bicycle

Mississippi Street is designated as existing Bicycle Route 23 (Class III with wide curb lanes) between Mariposa and 16th Streets. Existing Bicycle Route 23 intersects existing Bicycle Route 40 (Class II) at 16th Street and existing Bicycle Route 7 (Class III) at Indiana Street. The block of Mississippi Street from 16th Street to 17th Street has a two percent uphill grade while the block from 17th Street to Mariposa Street has a five percent uphill grade. Bicycle volumes are low.

Loading

This segment has a moderate loading demand for the commercial uses within the two blocks. Loading vehicles typically park perpendicular to Mississippi Street in the driveways and occasionally encroach on the street.

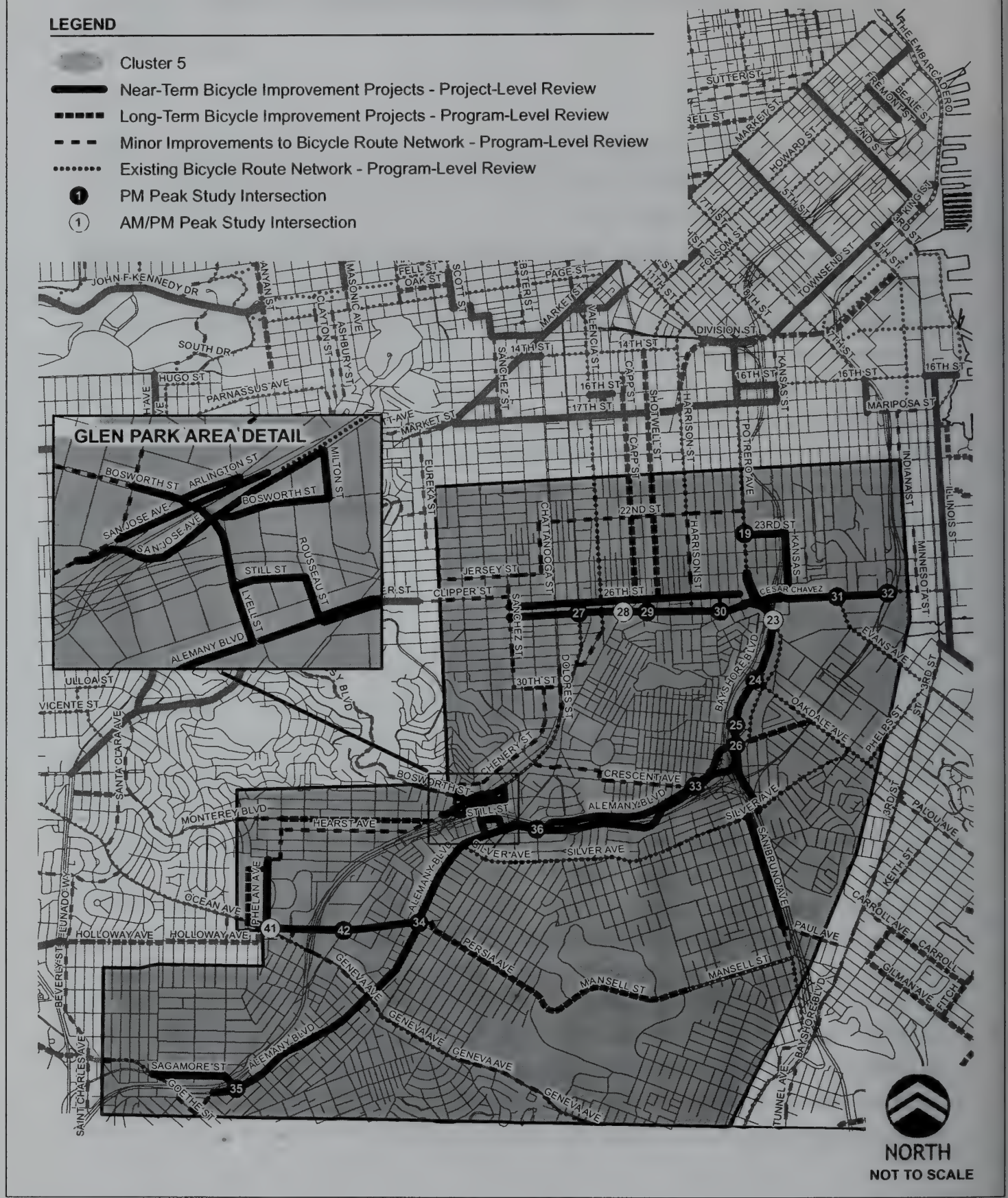
CLUSTER 5: MISSION/GLEN PARK/EXCELSIOR AREA

This section presents the project-level transportation impact analysis conducted for the projects near-term bicycle route network improvement projects (near-term improvements) within the Cluster 5 area, including a description of the near-term improvements, their location and existing traffic, transit, parking, pedestrian, bicycle and loading conditions in the area. 2025 Cumulative conditions with and without the near-term improvement alternatives, any potential transportation impacts of the near-term improvements and possible mitigation and improvement measures are also discussed and analyzed.

PROJECT LOCATION

CLUSTER 5

Cluster 5, shown on Figure V.A.3-9, p. V.A.3-106, is located in the south central part of San Francisco. The cluster is bounded by 20th Street to the north, Indiana Street and a line closely west of 3rd Street to the east, and the southern city limits to the south. The western boundary is roughly comprised of Eureka Street, an east-west line south of Mt. Davidson, a north-south line east of Plymouth Street to Grafton and Arch Streets. Many varied neighborhoods are contained within Cluster 5 including the Mission District, Potrero Hill, Bernal Heights, Glen Park, Bayview, Portola, the Excelsior, Outer Mission and Visitacion Valley. The most notable destinations within or directly adjacent to the cluster are the Cow Palace, CCSF, San Francisco General Hospital (SFGH), the commercial districts in Glen Park and the Mission District and the 24th Street/Mission, Glen Park, Balboa Park and Daly City BART Stations. The many hills and the US 101 and I-280 freeways create the biggest barriers to bicycle travel between the residential, commercial and recreation attractions in this cluster. The near-term improvements in Cluster 5 represent the flattest and most convenient routes around and through these obstacles. Most of the near-term improvements are recommended improvements to existing facilities along the existing San Francisco bicycle route network.



SOURCE: Wilbur Smith and Associates, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.3-9: CLUSTER 5 - STUDY AREA

The remaining twelve near-term improvements in Cluster 5 are included on existing Bicycle Routes 25, 45, 55, 60, 84, 98, 525, and 770 in San Francisco's existing bicycle route network. These routes represent the flattest routes through this hilly terrain as well as opportunities to circumvent some of the hazardous intersections created by the US 101 and I-280 freeway on/off-ramps. Existing Bicycle Route 25 is a major north-south connector between Aquatic Park on the San Francisco Bay to Visitation Valley. Existing Bicycle Route 25 includes Projects 5-4, 5-11 and 5-13 and is part of the San Francisco Bay Area Regional Bikeway Network. The connection provided by existing Bicycle Route 25 between Potrero Avenue and Bayshore Boulevard is important for the continuity of this route which serves the City's eastern industrial districts as well as the Bayview, Hunters Point, Candle Stick Stadium and a connection to San Mateo County.

Thirteen projects are included in the Cluster 5 area. Each project is identified below.

Project 5-1: 23rd Street Bicycle Lanes, Kansas Street to Potrero Avenue

Project 5-1 comprises part of existing Bicycle Route 525 which was designed to direct cyclists around the Potrero Avenue/Cesar Chavez Street/Bayshore Boulevard/US 101 interchange and serves as a spur to existing Bicycle Route 25.

Project 5-2: Alemany Boulevard Bicycle Lanes, Bayshore Boulevard to Rousseau Street

Project 5-2, located on Alemany Boulevard, would extend the existing Alemany route (existing Bicycle Route 45) from Rousseau Street, where it currently terminates, to Bayshore Boulevard to the east. Project 5-2 is the sole addition to the network.

Project 5-3: Alemany Boulevard Bicycle Lanes, Rousseau Street to San Jose Avenue

Project 5-3 is located on existing Bicycle Route 45 which runs north-south between the Marina District and Daly City. It provides connection to the Glen Park and Balboa Park BART Stations, CCSF, San Francisco State University (SFSU) and ultimately to Daly City BART and San Mateo County. Project 5-3 is part of the San Francisco Bay Area Regional Bikeway Network.

Project 5-4: Bayshore Boulevard Bicycle Lanes, Cesar Chavez Street to Silver Avenue

Projects 5-4, is part of the existing Bicycle Route 25, which includes 5-11 and 5-13 and is part of the San Francisco Bay Area Regional Bikeway Network. Existing

Bicycle Route 25 is a major north-south connector between Aquatic Park on the San Francisco Bay to Visitation Valley.

Project 5-5: Cesar Chavez Street Bicycle Lanes, I-280 to US 101 Freeways

Project 5-6: Cesar Chavez Street/26th Street Bicycle Lanes, Sanchez Street to US 101

Projects 5-5 and 5-6 are located on existing Bicycle Route 60 which runs from the Great Highway to 3rd Street. Both these projects are located on Cesar Chavez Street. These projects provide an important link to this crosstown route and are included on the San Francisco Bay Area Regional Bikeway Network.

Project 5-7: Glen Park Area Bicycle Lanes, a. Connection between Alemany Boulevard and San Jose Avenue and b. Connection between Monterey Boulevard and San Jose Avenue

Project 5-7 forms a small section of existing Bicycle Route 55 (Crissy Field to Upper Market and Glen Park BART) and provides improved access between Alemany and Monterey Boulevards and the destinations served by existing Bicycle Route 55 to the north. Project 5-7 is part of the San Francisco Bay Area Regional Bikeway Network.

Project 5-8: Kansas Street Bicycle Lanes, 23rd Street to 26th Street

Project 5-8 also comprises part of existing Bicycle Route 525 which was designed to direct cyclists around the Potrero Avenue/Cesar Chavez Street/Bayshore Boulevard/US 101 interchange and serves as a spur to existing Bicycle Route 25.

Project 5-9: Ocean Avenue Bicycle Lanes, Alemany Boulevard to Lee Avenue

Project 5-9 is located on existing Bicycle Route 84 (Ocean Avenue) with direct access to CCSF and linking the Excelsior District to destinations west via existing Bicycle Route 90.

Project 5-10: Phelan Avenue Bicycle Lanes, Judson Avenue to Ocean Avenue

Project 5-10 on existing Bicycle Route 770 provides a connection between existing Bicycle Routes 70 and 84 with direct access to CCSF.

Project 5-11: Potrero Avenue and Bayshore Boulevard Bicycle Lanes, 25th to Cesar Chavez Streets

Project 5-12: Sagamore Street and Sickles Avenue Bicycle Lanes, Alemany Boulevard to Brotherhood Way

Project 5-12 (existing Bicycle Route 98) provides a connection between the Excelsior and Ingleside Districts and access between existing Bicycle Route 45 (Alemany Boulevard) and existing Bicycle Route 75 (Beverley Street), thereby providing access to SFSU, the San Francisco Golf Club, and Lake Merced. Project 5-12 is included on the San Francisco Bay Area Regional Bikeway Network.

Project 5-13: San Bruno Avenue Bicycles Lanes, Paul Avenue to Silver Avenue

Project 5-13 is proposed as an alternative to the Bayshore Boulevard/3rd Street/US 101 intersection.

PROJECT DESCRIPTION

The following paragraphs describe the 13 near-term improvements included within the Cluster 5 area. Projects 5-1, 5-2, 5-3, 5-8, and 5-11 have one design option; the remaining near-term improvements have two design options. Detailed drawings of existing and proposed lane striping and roadway geometry changes are included in Appendix B.

PROJECT 5-1: 23RD STREET BICYCLE LANES, KANSAS STREET TO POTRERO AVENUE

Project 5-1 would involve the installation of Class II and Class III bicycle facilities on 23rd Street between Kansas Street and Potrero Avenue adjacent to SFGH.

Project 5-1 would involve the installation of a Class II bicycle lane in the eastbound direction and the addition of sharrows to the existing Class III bicycle route in the westbound direction. Project 5-1 would not involve travel lane or parking removal. However, travel lanes would be narrowed to create space for the eastbound bicycle lane.

PROJECT 5-2: ALEMANY BOULEVARD BICYCLE LANES, BAYSHORE BOULEVARD TO ROUSSEAU STREET

Project 5-2 would add a new route to the City's existing bicycle route network.

Project 5-2 would involve the installation of Class II and Class III bicycle facilities in both directions on Alemany Boulevard between Bayshore Boulevard and Rousseau Street.

Project 5-2 would involve the installation of Class II bicycle lanes in both directions on Alemany Boulevard between Putnam and Rousseau Streets by removing one eastbound travel lane between Rousseau and Trumbull Streets, removing one westbound travel lane between Putnam Street and Ellsworth Street, removing parking on the north side of Alemany Boulevard between Ellsworth Street and Rousseau Street, and removing parking on the south side of Alemany Boulevard between Rousseau Street and Putnam Street. A total of approximately 375 under-utilized parking spaces would be removed. Project 5-2 would add sharrows in both directions on Alemany Boulevard between Bayshore Boulevard and Putnam Street. Project 5-2 would add a left-turn Class II bicycle lane on eastbound Alemany Boulevard approaching Bayshore Boulevard.

Project 5-3: Alemany Boulevard Bicycle Lanes, Rousseau Street to San Jose Avenue

Project 5-3 was implemented on April 28, 2006, prior to the Bicycle Plan injunction. Project 5-3 involved the installation of a mixed Class II and Class III bicycle facility on Alemany Boulevard between Rousseau Street and San Jose Avenue.

Project 5-3 involved adding bicycle lanes on Alemany Boulevard in both directions between Rousseau Street and San Jose Avenue by removing a travel lane in each direction, except for the following segments: Northbound Alemany Boulevard between Niagara Avenue and Geneva Avenue, and southbound Alemany Boulevard between Seneca Avenue and Geneva Avenue. No travel lanes were removed along these segments, and sharrows were added to the existing Class III bicycle route along these segments. On westbound Alemany Boulevard approaching San Jose Avenue, travel lanes were narrowed to install a bicycle lane, but no westbound travel lanes were removed. On eastbound Alemany Boulevard approaching San Jose Avenue, travel lanes were narrowed to install a bicycle lane and one travel lane was converted to a right-turn only lane. Approximately two parking spaces were removed on southbound Alemany Boulevard at Ocean Avenue to create a southbound right-turn only lane.

Project 5-4: Bayshore Boulevard Bicycle Lanes, Cesar Chavez Street to Silver Avenue

Project 5-4 would involve the installation of Class II bicycle lanes in both directions on Bayshore Boulevard between Cesar Chavez Street and Silver Avenue. Project 5-4 would involve moving portions of existing southbound Bicycle Route #25 from Jerrold Avenue, Barneveld Avenue, Loomis Street, and Industrial Street onto Bayshore Boulevard.

Project 5-4 is divided into two segments:

- **Segment I**
  Segment I would extend between Cesar Chavez Street and Industrial Street, and has two design options:

  Option 1 would install Class II bicycle lanes in both directions on Bayshore Boulevard by removing a travel lane in each direction.

  Option 2 would install Class II bicycle lanes in both directions on Bayshore Boulevard by removing parking on both sides of the street. This option would remove a total of approximately 220 parking spaces.

- **Segment II**
  Segment II would extend between Industrial Street and Silver Avenue, and has two design options:

  Option 1 would install Class II bicycle lanes in both directions on Bayshore Boulevard by removing a northbound travel lane from approximately 150 feet north of Silver Avenue to Industrial Street and by removing approximately 15 parking spaces on the east side of Bayshore Boulevard between Silver Avenue and Boutwell Street.

  Option 2 would install Class II bicycle lanes in both directions on Bayshore Boulevard by removing a northbound travel lane from Helena Street to approximately 320 feet northerly and by establishing a northbound right-turn lane from 320 feet north of Helena Street to Industrial Street. This option would remove approximately 40 parking spaces on the east side of Bayshore Boulevard between Silver Avenue and Helena Street.

  Both Segment II options above would remove approximately 70 under-utilized parking spaces on the west side of Bayshore Boulevard between Industrial Street and Silver Avenue.

PROJECT 5-5: CESAR CHAVEZ STREET BICYCLE LANES, I-280 TO US 101 FREEWAYS

Project 5-5 would involve the installation of Class II bicycle lanes in both directions on Cesar Chavez Street between Kansas Street (near US 101 Freeway) and Mississippi Street (near I-280 Freeway). Project 5-5 includes two design options:

- **Option 1**
  Option 1 would remove a travel lane in either the eastbound or the westbound direction and install Class II bicycle lanes in both directions. The eastbound and westbound lane removals would be analyzed separately and the least impactful scenario would be carried forward and be included in the plan. Depending on which direction is chosen for the travel lane removal the resulting lane configuration would be: a) two lanes eastbound and one lane westbound, plus the turn lanes approaching Evans Avenue; or

b) one lane eastbound and two lanes westbound, plus the turn lanes approaching Evans Avenue. Option 1 would not involve parking removal.

- **Option 2**
  Option 2 would involve the installation of Class II bicycle lanes in both directions by removing approximately 94 parking spaces on the north side of Cesar Chavez Street. The estimated parking loss does not account for existing curb cuts or red zones, therefore the actual number of parking spaces removed would likely be lower. This option would not involve travel lane removal.

PROJECT 5-6: CESAR CHAVEZ STREET/26TH STREET BICYCLE LANES, SANCHEZ STREET TO US 101

The Cesar Chavez Street section of Project 5-6 would involve the installation of Class II and Class III bicycle facilities in both directions between Hampshire Street (near US 101 Freeway) and Sanchez Street as well as street trees along this same segment.

The Cesar Chavez Street section of Project 5-6 would be divided into three segments.

- **Segment I**
  Segment I of the Cesar Chavez Street section of Project 5-6 would extend between Hampshire Street and Valencia Street and includes two design options:

  Option 1 would remove one travel lane in each direction, maintain or widen the existing median, and install Class II bicycle lanes in both directions. This option would remove up to 40-45 spaces, typically at corners where bulbouts may be constructed to widen the sidewalk.

  Option 2 would remove one travel lane in each direction, remove the existing median, and install Class II bicycle lanes in both directions and a center two-way left-turn lane. This option would not involve parking removal.

- **Segment II**
  Segment II of the Cesar Chavez Street section of Project 5-6 would extend between Valencia Street and Guerrero Street and includes two design options:

  Option 1 would remove one through travel lane in each direction, remove or relocate the existing median, and install Class II bicycle lanes in both directions. This option would remove 5-8 parking spaces, typically at corners where bulbouts may be constructed to widen the sidewalk.

  Option 2 would remove one through travel lane in the eastbound direction and a left turn lane in the westbound direction, maintain or widen the existing median, and install Class II bicycle lanes in both directions. This option would also install a Class II bicycle

left turn lane in the eastbound intersection approach to Valencia Street. This option would not involve parking removal.

- **Segment III**
  Segment III of the Cesar Chavez Street section of Project 5-6 would extend from Guerrero Street to Sanchez Street, and has two design options.

  Option 1 would install sharrows in both directions to the existing Class III bicycle route along Segment III. This option would not change the lane configuration and would not involve travel lane or parking removal.

  Option 2 would install sharrows in both directions to the existing Class III bicycle route along Segment III. This option would change the lane configuration in the eastbound intersection approach to Guerrero Street to a left turn lane and a through-right turn lane. This option would not involve travel lane or parking removal.

  The 26th Street section of Project 5-6 would establish a new Class III bicycle route with sharrows in both directions on 26th Street between Hampshire Street and Sanchez Street. Project 5-6 would result in the loss of approximately four parking spaces per block (approximately 76 total spaces), typically at the corners, where bulb-outs and chokers would be installed to calm traffic. This option would not involve travel lane removal.

PROJECT 5-7: GLEN PARK AREA BICYCLE LANES, A. CONNECTION BETWEEN ALEMANY BOULEVARD AND SAN JOSE AVENUE AND B. CONNECTION BETWEEN MONTEREY BOULEVARD AND SAN JOSE AVENUE

a. Connection between Alemany Boulevard and San Jose Avenue via Arlington Street, Bosworth Street, Lyell Street, Milton Street, Rousseau Street, and Still Street.

Project 5-7 would add a new route to the City's existing bicycle route network on northbound Milton Street between Bosworth Street and San Jose Avenue.

Project 5-7 would involve the installation of Class II and Class III bicycle facilities along portions of existing Bicycle Route 45 and existing Bicycle Route 55 to close a gap between the existing bicycle lanes on San Jose Avenue and Alemany Boulevard on both sides of the I-280 Freeway and to provide a better connection for bicyclists to the Glen Park BART Station. Project 5-7 includes two design options:

Both options would add a southbound Class II bicycle lane on Arlington Street between Wilder Street and Bosworth Street by removing approximately 11 parking spaces on the east side of the street, add sharrows on eastbound Bosworth Street between Diamond Street and the I-280 on-ramp, add an eastbound Class II bicycle lane on Bosworth Street between the I-280 on-ramp and Lyell Street by removing approximately 36 parking spaces on the west

side of the street, add a westbound Class II bicycle lane on Bosworth Street between Lyell Street and Arlington Street by narrowing the travel lanes, add a westbound Class II bicycle lane on Bosworth Street between Arlington Street and Diamond Street by removing nine metered parking spaces, add sharrows on westbound Bosworth Street approaching Diamond Street, add a northbound Class II bicycle lane on Lyell Street between Still Street and Bosworth Street by narrowing the travel lanes and the medians as needed, add an eastbound Class II bicycle lane on Bosworth Street between Lyell Street and Milton Street, including a left-turn bicycle lane approaching Milton Street, by narrowing the travel lanes, and add sharrows on northbound Milton Street between Bosworth Street and San Jose Avenue.

- **Option 1**
  Option 1 would add a southbound Class II bicycle lane on Lyell Street between Still Street and Cayuga Avenue by narrowing travel lanes, and add southbound Class II bicycle lanes on Lyell Street between Cayuga Avenue and Alemany Boulevard by removing one of the two southbound left-turn lanes approaching Alemany Boulevard.

- **Option 1**
  Option 1 would also add a northbound Class II bicycle lane on Rousseau Street between Alemany Boulevard and Cayuga Avenue by narrowing travel lanes, add a northbound Class II bicycle lane on Rousseau Street between Cayuga Avenue and Still Street by removing approximately three parking spaces on the east side of Rousseau Street, and add a westbound Class II bicycle lane on Still Street between Rousseau Street and Lyell Street by narrowing travel lanes. Option 1 would remove a total of approximately 59 parking spaces.

- **Option 2**
  Option 2 would move northbound Bicycle Route #45 from Alemany Boulevard between Lyell Street and Rousseau Street, Rousseau Street between Alemany Boulevard and Still Street, and Still Street between Rousseau Street and Lyell Street to northbound Lyell Street between Alemany Boulevard and Still Street. Option 2 would add a southbound Class II bicycle lane on Lyell Street between Still Street and Cayuga Avenue by removing approximately seven parking spaces on the west side of Lyell Street, and add sharrows on southbound Lyell Street between Cayuga Avenue and Alemany Boulevard.

- **Option 2**
  Option 2 would also add a left-turn bicycle lane on eastbound Alemany Boulevard approaching Lyell Street by narrowing the median and changing the existing left-turn restriction to allow bicycle left-turns, remove the existing left-turn bicycle lane on eastbound Alemany Boulevard approaching Rousseau Street and add approximately seven parking spaces along the south side of Alemany Boulevard, add a northbound contra-flow Class II bicycle lane on Lyell Street between Alemany Boulevard and Still

Street by removing one of the two southbound left-turn lanes approaching Alemany Boulevard, and create a channel in the median island at the intersection of Lyell and Still Streets to allow northbound bicycle travel. Option 2 would add stop controls on eastbound Still Street approaching Lyell Street. Option 2 would remove a total of approximately 56 parking spaces.

b. Connection between Monterey Boulevard and San Jose Avenue via Monterey Boulevard and San Jose Avenue ramps.

Project 5-7 would add a new route to the City's existing bicycle route network.

Project 5-7 would involve the installation of Class I, Class II, and Class III bicycle facilities to close a gap between the existing bicycle lanes on San Jose Avenue, Route #45, and the existing Class III bicycle Route #70 on Circular Avenue.

In the southbound direction, Project 5-7 would extend the existing Class II bicycle lane on San Jose Avenue approaching the Arlington Street off-ramp to Diamond Street by installing a Class II bicycle lane along the Arlington Street off-ramp, installing a Class I bicycle path across the median island of San Jose Avenue to connect the Arlington Street and Monterey Boulevard off-ramps, and installing a Class II bicycle lane along the Monterey Boulevard off-ramp approaching Diamond Street. Sharrows would be added to the existing Class III bicycle route on Monterey Boulevard from Diamond Street to Circular Avenue.

In the northbound direction, Project 5-7 would install Class II bicycle lanes on Monterey Boulevard and San Jose Avenue from Circular Avenue to Milton Street by removing one travel lane from Circular Avenue to the San Jose Avenue freeway overpass. There would be no parking removal associated with Project 5-7.

PROJECT 5-8: KANSAS STREET BICYCLE LANES, 23RD STREET TO 26TH STREET

Project 5-8 would involve the installation of Class II bicycle lanes in both directions on Kansas Street between 23rd Street and 26th Street.

Project 5-8 would install Class II bicycle lanes in both directions, with painted or raised pedestrian refuges added at the intersections. Project 5-8 would not involve travel lane or parking removal. However, the travel lanes would be narrowed at the intersections to create the pedestrian refuge areas.

PROJECT 5-9: OCEAN AVENUE BICYCLE LANES, ALEMANY BOULEVARD TO LEE AVENUE

Project 5-9 would involve the installation of Class II and Class III bicycle facilities in both directions on Ocean Avenue between Alemany Boulevard and Lee Avenue.

Project 5-9 is divided into two segments.

- **Segment I**
  Segment I would extend from Alemany Boulevard to San Jose Avenue. Project 5-9 would install Class II bicycle lanes in both directions without parking or lane removals along Segment I.

- **Segment II**
  Segment II would extend from San Jose Avenue to Lee Avenue. Segment II includes two design options:

  Option 1 would add a Class II bicycle lane in the westbound direction from San Jose Avenue to Phelan Avenue by removing approximately 24 parking spaces on the north side of the street and removing one of the westbound travel lanes from the I-280 Freeway southbound off-ramp to Phelan Avenue.

  Option 1 would add a Class II bicycle lane in the eastbound direction from Lee Avenue to the I-280 Freeway southbound on-ramp by removing approximately 25 parking spaces on portions of the south side of the street and removing one of the eastbound travel lanes from Geneva Avenue to 330 feet west of the I-280 Freeway northbound on-ramp. This option also would reconfigure the optional eastbound through/right turn lane approaching Geneva Avenue to a dedicated right-turn lane.

  Option 2 would add a Class II bicycle lane in the westbound direction from San Jose Avenue to the I-280 Freeway southbound off-ramp by removing approximately 20 parking spaces on the north side of the street. From the I-280 Freeway southbound off-ramp to Lee Avenue sharrows would be added in the westbound direction to the existing Class III bicycle route.

  Option 2 would add a Class II bicycle lane in the eastbound direction by removing approximately 70 parking spaces from Lee Avenue to the I-280 northbound on-ramp. No travel lanes would be removed under Segment II Option 2.

PROJECT 5-10: PHELAN AVENUE BICYCLE LANES, JUDSON AVENUE TO OCEAN AVENUE

Project 5-10 would involve the installation of Class II bicycle lanes in both directions on Phelan Avenue between Judson Avenue and Ocean Avenue. Project 5-10 would include installation of traffic signals at the intersections of Phelan Avenue and South Cloud Circle, Phelan Avenue and North Cloud Circle, and the new intersection of Phelan Avenue and Lee Avenue. Project 5-10 also would include adding bulb-outs and raised crosswalks along Phelan Avenue. Project 5-10 includes two design options:

- **Option 1**
  Option 1 would remove a travel lane in each direction and install Class II bicycle lanes in both directions and build raised median islands with left-turn pockets at intersections from Ocean Avenue to Judson Avenue. This design option is consistent with the Balboa Park Station Area Plan Draft EIR, which was released in October 2007.

- **Option 2**
  Option 2 would remove approximately 140 parking spaces and approximately 30 motorcycle parking spaces on Phelan Avenue to install Class II bicycle lanes in both directions. This option would not provide sidewalk bulb-outs at crosswalks. There would be no travel lane removal under Option 2.

PROJECT 5-11: POTRERO AVENUE AND BAYSHORE BOULEVARD BICYCLE LANES, 25TH TO CESAR CHAVEZ STREETS

Project 5-11 would involve the installation of Class II bicycle lanes in both directions on Potrero Avenue and Bayshore Boulevard between 25th Street and Cesar Chavez Street.

In the northbound direction, travel lanes would be narrowed to add a curbside Class II bicycle lane along Bayshore Boulevard from approximately 200 feet south of the intersection of Potrero Avenue and the US 101 off-ramp to this intersection. A northbound Class II bicycle lane exists on Potrero Avenue, beginning approximately 300 feet south of 25th Street. This Class II bicycle lane would be extended southerly to the intersection of Potrero Avenue and the US 101 off-ramp by removing approximately 20 parking spaces. In the southbound direction, a Class II bicycle lane exists on Potrero Avenue, but ends approximately 120 feet south of 25th Street. This Class II bicycle lane would be extended southerly to Cesar Chavez Street by narrowing travel lanes. No parking removal would be required to extend the southbound Class II bicycle lane.

PROJECT 5-12: SAGAMORE STREET AND SICKLES AVENUE BICYCLE LANES, ALEMANY BOULEVARD TO BROTHERHOOD WAY

Project 5-12 would involve the installation of Class II bicycle lanes in both directions on Sagamore Street and Sickles Avenue, between Alemany Boulevard and Brotherhood Way. Project 5-12 includes two design options:

- **Option 1**
  Option 1 would add a Class II bicycle lane in the westbound direction on Sagamore Street from Plymouth Avenue to Orizaba Avenue by narrowing the travel lanes from Plymouth Avenue to Capitol Avenue and removing one westbound travel lane from 250 feet west of Capitol Avenue to Orizaba Avenue. The westbound lane configuration approaching Orizaba Avenue would change to include a dedicated right turn lane onto Orizaba Avenue, a westbound lane approaching Brotherhood Way, and a westbound lane approaching Alemany Boulevard. The angled parking on the north side of Sagamore Street between Capitol Avenue and Orizaba Avenue would be converted to back-in-angled parking and would not result in parking loss.

- **Option 1**
  Option 1 would add a Class II bicycle lane in the eastbound direction on Sagamore Street from Orizaba Avenue to Capitol Avenue by removing eight parking spaces just west of Capitol Avenue. There is an existing Class II bicycle lane on Sagamore Street in the eastbound direction from Capitol Avenue to 130 feet west of Plymouth Avenue. A Class II bicycle lane would be added on Sagamore Street from 130 feet west of Plymouth Avenue to Plymouth Avenue by removing an eastbound travel lane along that segment. In addition, a Class II bicycle lane would be added in the eastbound direction along Sickles Avenue from Plymouth Avenue to Alemany Boulevard by narrowing the traffic lane.

- **Option 2**
  Option 2 would add a Class II bicycle lane in the westbound direction from Plymouth Avenue to Capitol Avenue, similar to Option 1. From Capitol Avenue to Orizaba Avenue, a westbound Class II bicycle lane would be added by changing the parking layout and removing 15 parking spaces on the north side of Sagamore Street and creating a westbound right-turn pocket approaching Orizaba Avenue. In the eastbound direction from Orizaba Avenue to Alemany Boulevard a Class II bicycle lane would be added by removing 15 parking spaces on the south side of Sagamore Street. In addition, a Class II bicycle lane would be added in the eastbound direction along Sickles Avenue from Plymouth Avenue to Alemany Boulevard by narrowing the traffic lane.

PROJECT 5-13: SAN BRUNO AVENUE BICYCLES LANES, PAUL AVENUE TO SILVER AVENUE

Project 5-13 would involve moving a portion of the existing Bicycle Route #25 from Bayshore Boulevard onto San Bruno Avenue.

Project 5-13 would involve the installation of Class II bicycle lanes in both directions on San Bruno Avenue between Paul Avenue and Silver Avenue. Project 5-13 is divided into two segments.

- **Segment I**
  Segment I would extend from Paul Avenue to Silliman Street and includes two design options:

  Option 1 would install Class II bicycle lanes in both directions between Paul Avenue and Silliman Street. The bicycle lanes would be provided between eight-foot wide parking and ten-foot wide travel lanes.

  Option 2 would install Class II bicycle lanes in both direction between Paul Avenue and Silliman Street. The bicycle lanes would be provided between seven-foot wide parking and eleven-foot wide travel lanes.

- **Segment II**
  Segment II would extend from Silliman Street to Silver Avenue and includes one design option:

  Class II bicycle lanes would be installed in both directions along Segment II by removing 22 parking spaces.

PROJECT SETTING

This section provides a description of the existing transportation conditions along the bicycle near-term improvements in Cluster 5. Descriptions of existing roadway access, traffic, transit, parking, pedestrian, bicycle and loading conditions are included. The study intersections for Cluster 5 are shown on Figure V.A.3-9, p. V.A.3-106. Figures showing the turning movement traffic volumes and lane configurations at those study intersections for Existing conditions may be found within the transportation impact analysis discussion for Cluster 5 within the transportation impact study. LOS calculation sheets for those study intersections and transit

delay calculation sheets for the affected transit routes may be found in the appendices of the transportation impact study.[27]

PROJECT 5-1: 23RD STREET BICYCLE LANES, KANSAS STREET TO POTRERO AVENUE

Roadways

23rd Street between Kansas Street and Potrero Avenue is a two-lane east-west collector street. The main entrance to SFGH is located on the north side of 23rd Street between Utah Street and San Bruno Avenue. Traffic volumes are moderate during the AM and PM peak periods.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour.

Intersection 19: Potrero Avenue/23rd Street

During the weekday PM peak hour, the Potrero Avenue/23rd Street intersection operates at an acceptable level of service (LOS C), with 24.7 seconds of delay. Table V.5-1, p. V.A.3-120, summarizes these results.

TABLE V.5-1
CLUSTER 5 – PROJECT 5-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
19.	Potrero Avenue/23rd Street	Signal	24.7	C

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Transit

Muni bus line 48 runs in both directions along this segment of 23rd Street. There are two westbound and two eastbound bus stops on 23rd Street. In addition, UCSF Blue, Gold and Yellow shuttle buses enter and exit the SFGH main entrance on 23rd Street between Utah Street and San Bruno Avenue, and the emergency vehicle entrance to SFGH is on 23rd Street between San Bruno Avenue and Vermont Street. In total there are approximately nine Muni buses per

[27] Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study.* This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File No 2007.0347E.

hour, each way, during the AM and PM peak periods, and approximately three shuttles westbound and seven shuttles eastbound during the AM and PM peak periods.

Parking

On-street parking is permitted on both sides of the street, with 2-hour parking on the north side and 1-hour parking on the south side. This area is part of RPP Zone W. Vehicles with RPP W zone permit can park on the street without time limitations. Parking occupancy is generally high.

Pedestrian

Pedestrian volumes along this street are generally moderate, but moderately high at the crosswalks at the SFGH main entrance.

Bicycle

23rd Street is designated as part of existing Bicycle Route 525 (Class III with wide curb lanes) in both directions between Kansas Street and Potrero Avenue. Existing Bicycle Route 525 intersects existing Bicycle Route 25 (Class II) at Potrero Avenue, and existing Bicycle Route 60 (Class III) at Kansas Street/Cesar Chavez Street. Street grades along Project 5-1 range from four percent to five percent. Bicycle volumes are low to moderate.

Loading

This segment of 23rd Street has hospital buildings on the north side and a parking garage and residential uses on the south side. The hospital's loading demand is generally accommodated by off-street loading facilities on the campus. Occasionally truck loading and double parking occur on 23rd Street between Utah Street and Potrero Avenue.

PROJECT 5-2: ALEMANY BOULEVARD BICYCLE LANES, BAYSHORE BOULEVARD TO ROUSSEAU STREET

Roadways

Alemany Boulevard between Bayshore Boulevard and Rousseau Street is generally a six-lane major arterial, except the section between Gates and Congdon Streets, it is a one-way frontage road on both sides of I-280. It is part of the MTS Roadway Network and the CMP Network. Traffic volumes are moderate to high.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour.

Intersection 26: Bayshore Boulevard/Alemany Boulevard/Industrial Street

During the weekday PM peak hour, the Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection operates at an acceptable level of service (LOS D), with 51.2 seconds of delay.

Intersection 33: Putnam Street/I-280 Off-Ramp/Alemany Boulevard

During the weekday PM peak hour, the Putnam Street/I-280 Off-Ramp/Alemany Boulevard intersection operates at an acceptable level of service (LOS C), with 25.5 seconds of delay.

Intersection 36: Justin Drive/Congdon Street/Alemany Boulevard

During the weekday PM peak hour, the Justin Drive/Congdon Street/Alemany Boulevard intersection operates at an acceptable level of service (LOS C), with 20 seconds of delay. Table V.5-2, p. V.A.3-122, summarizes these results.

TABLE V.5-2
CLUSTER 5 – PROJECT 5-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
26.	Bayshore Boulevard/Alemany Boulevard/Industrial Street	Signal	51.2	D
33.	Putnam Street/I-280 off-ramp/Alemany Boulevard	Signal	25.5	C
36.	Justin Drive/Congdon Street/Alemany Boulevard	Signal	20.0	C

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Transit

Muni bus line 14X runs in the westbound direction between Putnam and Ellsworth Streets, with one stop on the far side of Ellsworth Street, and in the eastbound direction between Stoneybrook Avenue and Bayshore Boulevard, with no stops on Alemany Boulevard. Muni bus line 67 runs only in the westbound direction on the long block of Alemany Boulevard between Putnam and Ellsworth Streets with two stops near Banks and Gates Streets. Muni bus line 23

runs in both directions on Alemany Boulevard between Bayshore Boulevard and Putnam Street with no stops along this section. There are approximately 14 westbound buses and 10 eastbound buses per hour during the AM and PM peak periods.

Parking

On-street parking is permitted on both sides of the street, and parking occupancy is generally low.

Pedestrian

Pedestrian volumes are generally very low in this section of Alemany Boulevard.

Bicycle

There are no existing bicycle route designations in this section of Alemany Boulevard. Project 5-2 would intersect with existing Bicycle Route 45 (Class III) at Rousseau Street and existing Bicycle Route 25 (Class III) at Bayshore Boulevard. Street grades along Project 5-2 are relatively flat with slopes less than five percent. Bicycle volumes are generally low.

Loading

This segment of Alemany Boulevard has residential buildings on the north side and I-280 freeway structure along the south side. On-street loading demand is very low.

PROJECT 5-3: ALEMANY BOULEVARD BICYCLE LANES, ROUSSEAU STREET TO SAN JOSE AVENUE

Project 5-3 was implemented on April 28, 2006, prior to the Bicycle Plan injunction; as such, post-project implementation conditions describe what is on the ground today and are analyzed under Existing plus Project and Cumulative plus Project conditions. Pre-project conditions describe what existed before the implementation of Project 5-3 and are analyzed under Existing and 2025 Cumulative conditions.

Roadways

Alemany Boulevard between Rousseau Street and San Jose Avenue is a major arterial, which is part of the MTS Roadway Network and the CMP Network.

This segment had three travel lanes in each direction under "pre-project" conditions. Under "post-project implementation" conditions, one westbound and one eastbound travel lanes were removed, and Class II bicycle lanes were installed along this segment. The only exceptions are

the east side of Alemany Boulevard between Geneva and Seneca Avenues and the west side of Alemany Boulevard between Niagara and Geneva Avenues, which have sharrows; no travel lanes were removed. A right-turn lane was also added on the nearside of Ocean Avenue in the southbound direction by removing approximately two on-street parking spaces.

Traffic volumes are usually moderate to high during AM and PM peak commute hours, but substantially lower during midday.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour. Table V.5-3, p. V.A.3-124, summarizes these results.

TABLE V.5-3
CLUSTER 5 – PROJECT 5-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
34.	Alemany Boulevard/Ocean Avenue	Signal	16.1	B
35.	Alemany Boulevard/Sickles Avenue	Signal	41.2	D

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Intersection 34: Alemany Boulevard/Ocean Avenue

During the weekday PM peak hour, the Alemany Boulevard/Ocean Avenue intersection operates at an acceptable level of service (LOS B), with 16.1 seconds of delay.

Intersection 35: Alemany Boulevard/Sickles Avenue

During the weekday PM peak hour, the Alemany Boulevard/Sickles Avenue intersection operates at an acceptable level of service (LOS D), with 41.2 seconds of delay.

Transit

Most of the corridor has no transit service, except for the section of Alemany Boulevard between Silver Avenue and Rousseau Street. Muni bus lines 44 and 52 operate in both directions along this section of Alemany Boulevard. There are approximately 14 buses per hour during the peak periods. There are no bus stops along this segment of Alemany Boulevard.

Parking

On-street parking is permitted on both sides of the street, and parking occupancy is relatively low to moderate along this segment.

Pedestrian

Pedestrian volumes are generally very low, except before and after school near the high school and elementary-junior high school in the area (Balboa High school at Cayuga and Onondaga Avenues and Corpus Christi School at Alemany Boulevard and Francis Street). Intersections along Alemany Boulevard at Onondaga Avenue, Santa Rosa Avenue, and Cotter Street have yellow crosswalks designated as school crossings.

Bicycle

This section of Alemany Boulevard is designated as existing Bicycle Route 45 (Class II) in both directions between Rousseau Street and San Jose Avenue. Bicycle volumes are generally low. Existing Bicycle Route 45 intersects with existing Bicycle Route 98 (Class III) at Sickles Avenue, existing Bicycle Route 90 (Class III) at Geneva Avenue, existing Bicycle Route 84 (Class III) at Ocean Avenue, and existing Bicycle Route 70 (Class III) at Silver Avenue. Street grades along Project 5-3 are relatively flat with slopes less than five percent.

Loading

This section of Alemany Boulevard is mostly residential with some commercial and institutional uses. Loading demand typically is low and relies on on-street parking spaces.

PROJECT 5-4: BAYSHORE BOULEVARD BICYCLE LANES, CESAR CHAVEZ STREET TO SILVER AVENUE

Roadways

Bayshore Boulevard between Cesar Chavez Street and Silver Avenue is a four-lane north-south major arterial in an industrial and commercial area. This section of Bayshore Boulevard is part of the MTS Roadway Network and the CMP Network. Traffic volumes are generally high during the AM and PM peak periods.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the AM and PM peak hours.

Intersection 23: Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp

During the weekday AM peak hour, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection operates at an acceptable level of service (LOS E), with 58.9 seconds of delay. Table V.5-4, p. V.A.3-126, summarizes these results.

TABLE V.5-4
CLUSTER 5 – PROJECT 5-4
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY AM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
23.	Bayshore Boulevard/Jerrold Avenue/US 101 off-ramp	Signal	58.9	E

Source: Wilbur Smith Associates, October 2008.
Note:
a. Delay in seconds per vehicle.

Intersection 23: Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp

During the weekday PM peak hour, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection operates at an acceptable level of service (LOS E), with 58.9 seconds of delay.

Intersection 24: Bayshore Boulevard/Oakdale Avenue

During the weekday PM peak hour, the Bayshore Boulevard/Oakdale Avenue intersection operates at an acceptable level of service (LOS C), with 29.6 seconds of delay.

Intersection 25: Bayshore Boulevard/Cortland Avenue

During the weekday PM peak hour, the Bayshore Boulevard/Cortland Avenue intersection operates at an acceptable level of service (LOS C), with 21.2 seconds of delay.

Intersection 26: Bayshore Boulevard/Alemany Boulevard/Industrial Street

During the weekday PM peak hour, the Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection operates at an acceptable level of service (LOS D), with 51.2 seconds of delay. Table V.5-5, p. V.A.3-127, summarizes these results.

TABLE V.5-5
CLUSTER 5 – PROJECT 5-4
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
23.	Bayshore Boulevard/Jerrold Avenue/US 101 off-ramp	Signal	58.9	E
24.	Bayshore Boulevard/Oakdale Avenue	Signal	29.6	C
25.	Bayshore Boulevard/Cortland Avenue	Signal	21.2	C
26.	Bayshore Boulevard/Alemany Boulevard/Industrial Street	Signal	51.2	D

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Transit

Muni bus lines 9, 9X, 9AX, 90 owl, and SamTrans bus line 292 run along Bayshore Boulevard between Cesar Chavez Street and Silver Avenue. Southbound Muni bus lines 9X and 9AX run on US 101. In addition, Muni bus line 23 operates on Bayshore Boulevard between Oakdale Avenue and Industrial Street and Muni bus line 24 runs between Courtland and Industrial Streets. This section of Bayshore Boulevard carries approximately 20 southbound buses and 25 northbound buses during the AM and PM peak periods. Bus stops are located at Jerrold Avenue, Oakdale Avenue, Courtland Avenue, Marengo Street, Alemany Boulevard/Industrial Street, Boutwell Street/Augusta Street, and Silver Avenue.

Parking

On-street parking is permitted on portions of Bayshore Boulevard, and parking occupancy is generally high in this area.

Pedestrian

Pedestrian volumes are generally very low in this area.

Bicycle

Bayshore Boulevard is designated as existing Bicycle Route 25, which includes a northbound Class III bicycle route between Cesar Chavez Street and Silver Avenue and a southbound Class I bicycle path between Cesar Chavez Street and Jerrold Avenue. Existing Bicycle Route 25 intersects with existing Bicycle Route 60 (Class III with and without wide curb lanes) at Cesar

Chavez Street, and existing Route Bicycle 70 (Class III) at Silver Avenue. Street grades along Project 5-4 are relatively flat with slopes less than five percent. Bicycle volumes are very low along Project 5-4.

Loading

This segment of Bayshore Boulevard has a substantial amount of industrial and commercial uses. While most of these uses have off-street parking and loading facilities, some loading demand occurs on the street. Loading to businesses on the west side of Bayshore Boulevard are typically made using the 90-degree parking spaces in front of the store. Loading activities are typically high in the area and double parking was frequently observed.[28]

PROJECT 5-5: CESAR CHAVEZ STREET BICYCLE LANES, I-280 TO US 101 FREEWAYS

Roadways

Cesar Chavez is a major arterial with four travel lanes between the I-280 and US 101 freeways. The section of Cesar Chavez Street is part of the MTS Roadway Network and the CMP Network. Traffic volumes are generally high near the US 101 ramps during the AM and PM peak period.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour. Table V.5-6, p. V.A.3-129, summarizes these results.

Intersection 31: Evans Avenue/Cesar Chavez Street

During the weekday PM peak hour, the Evans Avenue/Cesar Chavez Street intersection operates at an acceptable level of service (LOS D), with 47.4 seconds of delay.

Intersection 32: Pennsylvania Avenue/Cesar Chavez Street/I-280 Off-Ramp

During the weekday PM peak hour, the Pennsylvania Avenue/Cesar Chavez Street/I-280 Off-Ramp intersection operates at an acceptable level of service (LOS C), with 31.9 seconds of delay.

[28] Field surveys were conducted by CHS Consulting on Tuesday, October 30, 2007 during the midday

TABLE V.5-6
CLUSTER 5 – PROJECT 5-5
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
31.	Evans Avenue/Cesar Chavez Street	Signal	47.4	D
32.	Pennsylvania Avenue/Cesar Chavez Street/I-280 off-ramp	Signal	31.9	C

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Transit

Muni bus line 19 runs in both directions on Cesar Chavez Street on the segment of Project 5-5 between Evans Avenue and Connecticut Street (approximately one block), with approximately six buses per hour each way during the AM and PM peak periods.

Parking

On-street parking is generally permitted on both sides of the street, and parking occupancy is moderate to high.

Pedestrian

Pedestrian volumes in this segment are generally low and sidewalks are generally available on both sides of Cesar Chavez Street.

Bicycle

Bicycle volumes are generally low in this area. Cesar Chavez is designated as existing Bicycle Route 60 with a Class II bicycle lane from I-280 west to the Caltrain tracks, Class III bicycle route from the Caltrain tracks west to Kansas Street, and Class III bicycle route with wide curb lanes from Kansas Street to US 101. There is also a Class I bicycle path eastbound between Hampshire Street and Bayshore Boulevard under US 101 and westbound between the northbound US 101 freeway on-ramp and Potrero Avenue. Existing Bicycle Route 60 connects with existing Bicycle Route 68 at Evans Avenue, existing Bicycle Route 525 (Class III with wide curb lanes) at Vermont Street, and existing Bicycle Route 25 (Class I/III) at Bayshore Boulevard. Street grades along Project 5-5 are relatively flat with slopes less than five percent.

Loading

This section has mostly industrial use and most of the buildings have off-street parking lot or loading areas. There is a limited number of on-street yellow commercial freight loading spaces. Most of the loading activities occur in the off-street areas or side streets, although infrequent loading activities were observed utilizing on-street parking spaces.[29]

PROJECT 5-6: CESAR CHAVEZ STREET/26TH STREET BICYCLE LANES, SANCHEZ STREET TO US 101

Roadways

Cesar Chavez Street is a generally secondary arterial between Sanchez and Guerrero Streets with mostly residential use. Cesar Chavez Street is a major arterial between Guerrero Street and US 101 with primarily residential uses. There are six travel lanes between Guerrero Street and US 101. West of Guerrero Street, it narrows down to a two lane street. This section of Cesar Chavez Street is part of the MTS Roadway Network and the CMP Network. Traffic volumes are generally high near the freeway ramps during the AM and PM peak periods and low between Sanchez and Guerrero Streets.

Traffic: Intersection Level of Service (LOS)

Intersection 28: Mission Street/Cesar Chavez Street

During the weekday AM peak hour, the Mission Street/Cesar Chavez Street intersection operates at an acceptable level of service (LOS C), with 27.7 seconds of delay. Table V.5-7, p. V.A.3-130, below summarizes these results.

TABLE V.5-7
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY AM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
28.	Mission Street/Cesar Chavez Street	Signal	27.7	C

Source: Wilbur Smith Associates, October 2008.
Note:
a. Delay in seconds per vehicle.

[29] Field surveys were conducted by CHS Consulting on Tuesday, October 30, 2007 during the midday

Intersection 27: Guerrero Street/Cesar Chavez Street

During the weekday PM peak hour, the Guerrero Street/Cesar Chavez Street intersection operates at an acceptable level of service (LOS D), with 52.5 seconds of delay.

Intersection 28: Mission Street/Cesar Chavez Street

During the weekday PM peak hour, the Mission Street/Cesar Chavez Street intersection operates at an acceptable level of service (LOS D), with 37.5 seconds of delay.

Intersection 29: South Van Ness Avenue/Cesar Chavez Street

During the weekday PM peak hour, the South Van Ness Avenue/Cesar Chavez Street intersection operates at an acceptable level of service (LOS C), with 33.4 seconds of delay.

Intersection 30: Bryant Street/Cesar Chavez Street

During the weekday PM peak hour, the Bryant Street/Cesar Chavez Street intersection operates at an unacceptable level of service (LOS D), with 51.4 seconds of delay. Table V.5-8, p. V.A.3-131, summarizes these results.

TABLE V.5-8
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

Intersection		Traffic Control Device	Average Delay[a]	LOS
27.	Guerrero Street/Cesar Chavez Street	Signal	52.5	D
28.	Mission Street/Cesar Chavez Street	Signal	37.5	D
29.	South Van Ness Avenue/Cesar Chavez Street	Signal	33.4	C
30.	Bryant Street/Cesar Chavez Street	Signal	51.4	D

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Transit

Muni bus lines 12 and 27 operate along portions of Project 5-6. Muni bus line 12 runs westbound along Cesar Chavez Street between Folsom and Mission Streets with approximately five buses per hour during the AM and PM peak periods. Muni bus line 27 runs along Cesar Chavez Street westbound between Valencia Street and South Van Ness Avenue and in both

directions between South Van Ness Avenue and Bryant Street with approximately six buses per hour each way during the AM and PM peak periods. Both Muni bus lines 12 and 27 also operate on a portion of the 26th Street segment of this project in the eastbound direction between Mission and Folsom Streets (Muni bus line 12) and between Valencia Street and South Van Ness Avenue (Muni bus line 27). Eastbound bus stops are located on 26th Street at Mission, South Van Ness Avenue and Folsom Street and on Cesar Chavez at Folsom, Harrison, and Florida Streets. Westbound bus stops are located at almost every block of Cesar Chavez Street including Bryant, Alabama, Harrison, Folsom, Valencia and Mission Streets and South Van Ness Avenue.

Parking

On-street parking is generally permitted on both sides of the street, and parking occupancy is moderate to high.

Pedestrian

Pedestrian volumes in this segment are generally low, and slightly higher near Mission Street and before and after classes at the Leonard R. Flynn Elementary School on Cesar Chavez Street at Harrison Street. Intersections along Cesar Chavez Street at Harrison, Folsom, and Shotwell Streets have yellow crosswalks designated as school crossings.

Bicycle

Bicycle volumes are generally low in this area. Cesar Chavez Street is designated as existing Bicycle Route 60 primarily with Class III bicycle route facilities except for an eastbound bicycle lane during the morning commute between York and Hampshire Streets. There is also a Class I bicycle path eastbound between Hampshire Street and Bayshore Boulevard under US 101 and westbound between the northbound US 101 on-ramp and Potrero Avenue. Existing Bicycle Route 60 intersects with existing Bicycle Route 49 (Class III with wide curb lanes) at Sanchez Street, existing Bicycle Route 45 (Class II) at Valencia/Guerrero Streets, existing Bicycle Route 33 (Class II) at Harrison Street, and existing Bicycle Route 25 (Class II) at Potrero Avenue. Street grades along Project 5-6 are relatively flat with slopes of less than five percent except for eight percent grades along the blocks between Guerrero and Dolores Streets and between Sanchez and Church Streets.

Loading

This section of Cesar Chavez Street is mostly residential use with some commercial and institutional uses. Most of the loading activities use the on-street parking spaces.

PROJECT 5-7: GLEN PARK AREA BICYCLE LANES, A. CONNECTION BETWEEN ALEMANY BOULEVARD AND SAN JOSE AVENUE AND B. CONNECTION BETWEEN MONTEREY BOULEVARD AND SAN JOSE AVENUE

Roadways

A. Arlington Street between Bosworth and Wilder Streets is a two-lane local street. Bosworth Street between Diamond and Milton Streets is a two-lane local street. Lyell Street between Bosworth and Still Streets is a two-lane local street, but between Still Street and Alemany Boulevard is a one-way local street with one travel lane. Rousseau Street between Alemany Boulevard and Still Street is a one-way local street with one travel lane. Still Street between Rousseau and Lyell Streets is a one-way local street with one travel lane. Traffic volumes along these streets are generally moderate.

B. San Jose Avenue in the project area is an aerial structure over Bosworth and Lyell Streets with ramp connections Monterey Boulevard. The east and west directions are accommodated on separate ramps both with two travel lanes. Monterey Boulevard has two-way traffic with one lane each way. Traffic volumes along these streets are generally moderate

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus lines 23, 44, and 52 run on portions of these five streets. In addition, the Glen Park BART Station is located along Project 5-7a on the northeast corner of the intersection of Bosworth and Diamond Streets. On the most well-served segment of Project 5-7a (Bosworth Street between San Jose Avenue and Diamond Street) there are approximately 16 busses per hour during the AM and PM peak periods. Transit service is less frequent on the other segments of Project 5-7a. Muni bus lines 44 and 52 have an eastbound bus stop on Bosworth Street on the far side of Diamond Street, a westbound stop on Bosworth Street at the nearside of Diamond Street, and a westbound stop on Still Street at the far side of Rotteck Street. Several employer shuttles also service the Glen Park BART Station, operating throughout the day but with the greatest frequency in the AM and PM peak periods. These vehicles, including large, 56-passenger coach buses and smaller 20-passenger shuttles, generally use the loading/disabled parking bay on the east side of Diamond Street south of Bosworth Street. In the AM peak, they illegally use the bus stop on Bosworth Street in front of the BART Station.

Parking

a. On-street parking is permitted on both sides of Arlington Street between Bosworth and Wilder Streets, on Bosworth Street between Diamond and Milton Streets, on Lyell Street between Bosworth and Still Streets (a two-lane local street with on-street parking on both sides), on Rousseau Street between Alemany Boulevard and Still Street, and on Still Street between Rousseau and Lyell Streets. Parking is permitted on Lyell Street between Still Street and Cayuga Avenue only on the west side. Parking occupancy is generally high north of the San Jose Avenue overpass and lower toward Alemany Boulevard, Rousseau Street, and Still Street.

b. San Jose Avenue in the project area is an aerial structure over Bosworth and Lyell Streets with ramp connections at Monterey Boulevard; no on-street parking is permitted. Monterey Boulevard has on-street parking on both sides of the street. Parking occupancy is generally high on Monterey Boulevard.

Pedestrian

Pedestrian volumes are generally low in this area, except on Bosworth Street near the Glen Park BART station.

Bicycle

Bicycle volumes are generally low to moderate along Bosworth and Lyell Streets. This section is designated as existing Bicycle Route 55 (Class III) in both directions on Bosworth and Lyell Streets between Diamond and Still Streets and in one direction on Lyell, Rousseau, and Still Streets. Existing Bicycle Route 55 intersects existing Bicycle Route 45 (Class III with wide curb lanes) at Diamond, San Jose, Still and Lyell Streets. Street grades in this area are relatively steep with slopes ranging from five to twenty percent.

Loading

a. These streets are mostly in residential areas where demand for freight/truck loading activities is low and can be accommodated by on-street parking. Passenger loading activity around the Glen Park BART Station is considerable, occurring primarily in the loading bay on the eastside of Diamond Street south of Bosworth Street in the PM peak hour. Several employer shuttles also load/unload in this location. Illegal passenger loading and unloading occur on Bosworth Street in front of the BART Station in the AM peak hour.

b. This segment of Project 5-7 is an aerial structure with no loading activity.

PROJECT 5-8: KANSAS STREET BICYCLE LANES, 23RD STREET TO 26TH STREET

Roadways

Kansas Street between 23rd and 26th Streets is a two-lane north-south local street that borders US 101. Traffic volumes are generally low.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus lines 19 and 48 run in the northbound direction only with approximately 11 buses per hour during the AM and PM peak periods.

Parking

On-street parking is permitted on both sides of the street, and most of the parking spaces are within Residential Parking Permit Zone W, with a one-hour limit for those who do not have a permit. Parking occupancy is moderate.

Pedestrian

Pedestrian volumes are low in the area. The intersection of Kansas and 25th Streets has a yellow crosswalk designated as a school crossing.

Bicycle

Kansas Street is designated as existing Bicycle Route 525 (Class III)) in both directions between 23rd and 26th Streets. This portion of existing Bicycle Route 525 does not intersect with any other routes on the existing bicycle route network. Street grades along Project 5-8 range from five percent to eight percent. Bicycle volumes are low in the area

Loading

This area has residential uses, which typically have low loading demand.

PROJECT 5-9: OCEAN AVENUE BICYCLE LANES, ALEMANY BOULEVARD TO LEE AVENUE

Roadways

Ocean Avenue between Lee Avenue and Alemany Boulevard is a two-lane east-west major arterial, which is part of the MTS Roadway Network and the CMP Network. Traffic volumes are generally high during the AM and PM peak periods.

Traffic: Intersection Level of Service (LOS)

Intersection 41: Phelan Avenue/Geneva Avenue/Ocean Avenue

During the weekday AM peak hour, the Phelan Avenue/Geneva Avenue/Ocean Avenue intersection operates at an acceptable level of service (LOS B), with 19.5 seconds of delay. Table V.5-9, p. V.A.3-136, summarizes these results.

TABLE V.5-9
CLUSTER 5 – PROJECT 5-9
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY AM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
41.	Phelan Avenue/Geneva Avenue/Ocean Avenue	Signal	19.5	B

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Intersection 34: Alemany Boulevard/Ocean Avenue

During the weekday PM peak hour, the Phelan Avenue/Geneva Avenue/Ocean Avenue intersection operates at an acceptable level of service (LOS B), with 16.1 seconds of delay. This study intersection is common between Projects 5-3 and 5-9.

Intersection 41: Phelan Avenue/Geneva Avenue/Ocean Avenue

During the weekday PM peak hour, the Phelan Avenue/Geneva Avenue/Ocean Avenue intersection operates at an acceptable level of service (LOS B), with 17.6 seconds of delay.

Intersection 42: San Jose Avenue/Ocean Avenue

During the weekday PM peak hour, the San Jose Avenue/Ocean Avenue intersection operates at an acceptable level of service (LOS C), with 25.2 seconds of delay. Table V.5-10, p. V.A.3-137, summarizes these results.

TABLE V.5-10
CLUSTER 5 – PROJECT 5-9
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
34.	Alemany Boulevard/Ocean Avenue	Signal	16.1	B
41.	Phelan Avenue/Geneva Avenue/Ocean Avenue	Signal	17.6	B
42.	San Jose Avenue/Ocean Avenue	Signal	25.2	C

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Transit

Muni light rail K-Ingelside operates in the median of Ocean Avenue between Lee and San Jose Avenues, approximately half of which has shared right-of-way and approximately half of which has an exclusive right-of-way with approximately seven vehicles per hour each way in the AM and PM peak periods. Muni bus lines 36 and 49 run along Ocean Avenue between Alemany Boulevard and Phelan Avenue with approximately 10 buses per hour each way in the AM and PM peak periods; Muni bus line 26 runs only in the eastbound direction between Howth Street and San Jose Avenue with approximately three buses per hour in the AM and PM peak periods. Muni bus lines 29, 9X, 9AX, and 9BX operate on Ocean Avenue between Geneva Avenue and Lee Avenue (Muni bus line 29) or Phelan Avenue (Muni bus routes 9X, 9AX, and 9BX) with approximately 24 buses per hour each way in the AM and PM peak periods. There are four westbound bus stops on Ocean Avenue and six eastbound bus stops, and two light rail bus stops in each direction in the center lane at Lee and Geneva Avenues.

Parking

On-street parking is available on portions of Ocean Avenue, and parking occupancy is generally high during weekday daytime hours.

Pedestrian

Pedestrian volumes are generally low to moderate, except high on the western end of the corridor near the CCSF. Intersections along Ocean Avenue at Cayuga, Otsego, Delano, and San Jose Avenues have yellow crosswalks designated as school crossings.

Bicycle

Ocean Avenue is designated as existing Bicycle Route 84 (Class III) with sharrows in each direction between Lee Avenue and the I-280 on-ramp. Existing Bicycle Route 84 joins with existing Bicycle Route 90 (Class III) on Ocean Avenue, intersects with existing Bicycle Route 770 (Class III) at Phelan Avenue, and existing Bicycle Route 45 (Class II) at Alemany Boulevard. Street grades along Project 5-9 range from four to seven percent. Bicycle volumes are generally low.

Loading

Loading activities are very limited east of I-280 ramps because there is the Balboa Park on the north side and Muni/BART Balboa Park Station and Muni Balboa Park Yard on the south side. Truck loading activities are also low west of the I-280 ramps because the north side is the CCSF and loading activities for the City College are performed within the City College, not on the street. On the south side in this section, most of the uses are residential and loading activities are low.

PROJECT 5-10: PHELAN AVENUE BICYCLE LANES, JUDSON AVENUE TO OCEAN AVENUE

Roadways

Phelan Avenue between Judson Avenue and Ocean Avenue is a four-lane north-south local street next to the CCSF. Traffic volumes are high during the AM and PM peak periods.

Traffic: Intersection Level of Service (LOS)

Intersection 41: Phelan Avenue/Geneva Avenue/Ocean Avenue

This study intersection is common between Projects 5-9 and 5-10.

Transit

Muni bus lines 36 and 43 run in both directions along Phelan Avenue between Judson Avenue and Ocean Avenue with approximately nine buses per hour each way during the AM and PM peaks. There are six bus stops on this section of Phelan Avenue, three in each direction.

Parking

On-street parking is permitted on both sides of the street, and parking occupancy is high.

Pedestrian

Pedestrian volumes are high along the sidewalks and at the crosswalks throughout the corridor when the City College is in session, and also because this segment is a key route to transit stops on Ocean Avenue.

Bicycle

Phelan Avenue is designated as existing Bicycle Route 770 (Class III)) in both directions between Judson Avenue and Ocean Avenue. Existing Bicycle Route 770 intersects with existing Bicycle Route 84 (Class III) at Ocean Avenue. Street grades along Project 5-10 are relatively flat with slopes less than three percent. Bicycle volumes are moderate to high.

Loading

This segment of Phelan Avenue currently has campus buildings on the east side and a surface parking lot on the west side. Loading demand for CCSF occur on the campus, not on the street. There are occasional deliveries made to the book store on the west side of Phelan Street.

PROJECT 5-11: POTRERO AVENUE AND BAYSHORE BOULEVARD BICYCLE LANES, 25TH TO CESAR CHAVEZ STREETS

Roadways

Potrero Avenue is a five-lane major arterial. Just south of 25th Street, Potrero Avenue becomes a connecting ramp to the US 101, Bayshore Boulevard, and Cesar Chavez Street with a one-way frontage road at either side. Potrero Avenue is part of the MTS Roadway Network and the CMP Network, but the majority of the study area is a local street. Traffic volumes are generally low on the frontage road but high on Potrero Avenue.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line 9 runs in both directions with one southbound bus stop within Project 5-11 on the far side of 25th Street. There are approximately six buses per hour each way during the AM peak period and eight buses per hour each way in the PM peak period.

Parking

On-street parking is permitted only on the west side of Potrero Avenue within this block.

Pedestrian

Pedestrian volumes are generally low.

Bicycle

Bicycle volumes are low to moderate. Potrero Avenue is designated as existing Bicycle Route 25 (Class II). Existing Bicycle Route 25 connects to existing Bicycle Route 60 (Class III) at Cesar Chavez. Street grades along Project 5-11 are approximately two percent.

Loading

This segment of Potrero Avenue has a mix of recreational, residential, and some commercial uses, and the loading demand is very low and usually accommodated by the on-street parking spaces.

PROJECT 5-12: SAGAMORE STREET AND SICKLES AVENUE BICYCLE LANES, ALEMANY BOULEVARD TO BROTHERHOOD WAY

Roadways

Sagamore Street/Sickles Avenue between Brotherhood Way and Alemany Boulevard is a local street with three westbound and two eastbound lanes. Traffic volumes are moderate to high during the AM and PM peak periods.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour.

Intersection 35: Alemany Boulevard/Sickles Avenue

During the weekday PM peak hour, the Alemany Boulevard/Sickles Avenue intersection operates at an acceptable level of service (LOS D), with 41.2 seconds of delay. Table V.5-11, p. V.A.3-141, summarizes these results.

TABLE V.5-11
CLUSTER 5 – PROJECT 5-12
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
35.	Alemany Boulevard/Sickles Avenue	Signal	41.2	D

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Transit

Muni bus line 88 operates along the full length of Project 5-12 in the westbound between Alemany Boulevard and Brotherhood Way in the PM peak only with approximately three buses per hour. It also runs in both directions for the short distance between Alemany Boulevard and San Jose Avenue with three buses westbound in the PM peak and three buses eastbound during the AM peak. Muni bus line 54 runs in both directions along Sagamore Street between Plymouth Avenue and Brotherhood Way with approximately three buses per hour each way during the AM and PM peak periods.

Parking

On-street parking is generally permitted on both sides of the street, and parking occupancy is generally moderate.

Pedestrian

Pedestrian volumes are relatively low in this area.

Bicycle

Sagamore Street is designated as existing Bicycle Route 98 with a westbound Class III bicycle route between San Jose Avenue and Brotherhood Way and an eastbound Class II bicycle lane between Capitol Avenue and San Jose Avenue. Existing Bicycle Route 98 also runs on Sickles Avenue with a northbound Class II bicycle lane that discontinues mid-block between Alemany

Boulevard and San Jose Avenue and a Class I bicycle path from Alemany Boulevard to San Jose Avenue. Existing Bicycle Route 98 intersects existing Bicycle Route 45 (Class II) at Alemany Boulevard. Street grades along Project 5-12 are flat with slopes less than one percent. Bicycle volumes are generally low.

Loading

This segment of Sagamore Street is mostly residential with low truck loading demand. Loading demand typically occurs on the street.

PROJECT 5-13: SAN BRUNO AVENUE BICYCLES LANES, PAUL AVENUE TO SILVER AVENUE

Roadways

San Bruno Avenue between Paul and Silver Avenues is a two-lane north-south local street. The US 101 freeway on-ramp and off-ramp are located at the intersection of San Bruno Avenue and Silliman Street. Traffic volumes are generally low to moderate.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line 9 runs in both directions on San Bruno Avenue; Muni bus lines 9AX and 9X operate southbound only from Silver Avenue to Bacon Street and in both directions from Bacon Street to Paul Avenue. Muni bus line 9AX operates only during the peak periods. There are approximately 18 buses per hour southbound and 12 buses per hour northbound within Project 5-13.

Parking

On-street parking is permitted on both sides of the street. Intersections at Burrows and Bacon Streets have yellow crosswalks designated as school crossings.

Pedestrian

Pedestrian volumes are moderate between US 101 and Bacon Street.

Bicycle

There are no existing bicycle routes on this section of San Bruno Avenue but would involve moving a portion of the existing Bicycle Route 25 from Bayshore Boulevard onto San Bruno Avenue. Project 5-13 would intersect existing Bicycle Route 5 (Class III) at Paul Street, and existing Bicycle Route 70 (Class III) at Silver. Bicycle volumes are generally low. Street grades along Project 5-13 range are relatively flat with slopes less than three percent.

Loading

This is a mixed residential and commercial street. Most of the businesses along this street do not have off-street loading spaces, thus, truck deliveries use on-street parking and on-street yellow commercial freight loading spaces. While a significant number of on-street loadings zones are available, especially on the northern part of the corridor, truck double parking occurs frequently

CLUSTER 6: TWIN PEAKS AREA

PROJECT LOCATION

This section presents the project-level transportation impact analysis conducted for the near-term bicycle route network improvement projects (near-term improvements) within the Cluster 6 area, including a description of the near-term improvements, their location and existing traffic, transit, parking, pedestrian, bicycle and loading conditions in the area. 2025 Cumulative conditions with and without the project alternatives, any potential transportation impacts of the near-term improvements and possible mitigation and improvement measures are also discussed and analyzed.

Cluster 6 is located in a central area of San Francisco including the hills of Twin Peaks, Mt. Sutro and Mt. Davidson. Cluster 6 is rectangular in shape and bounded on the north by the line connecting Moraga and 20th Streets, the west by 19th Avenue and the east by Diamond Street. The southern boundary is located just south of Sloat Boulevard and extends east to Chenery Street. The hilly neighborhoods of Diamond Heights, Glen Park, Mt. Davidson, West Portal and Twin Peaks can be found in Cluster 6. Laguna Honda Hospital is located in the heart of the cluster. The University of California at San Francisco and CCSF are located to the north and south of the cluster, respectively; Stern Grove, Stonestown Galleria Shopping Center, and SFSU are found to the southwest. The six near-term improvements included in Cluster 6 comprise portions of existing Bicycle Routes 50, 60, and 65 in San Francisco's existing bicycle route network. These routes represent the flattest routes through this hilly terrain. Existing Bicycle

Route 50 is a major east-west connector from the San Francisco Bay to the Pacific Ocean linking the Ferry Building at the base of Market Street to the Great Highway.

Six projects are included in the Cluster 6 area. Each project and location is identified below.

Project 6-1: Claremont Boulevard Bicycle Lanes, Dewey Boulevard to Portola Drive

Existing Bicycle Route 65 includes Projects 6-1 and 6-3 and connects the Presidio and Golden Gate Park to Laguna Honda Hospital and West Portal in Cluster 6. Existing Bicycle Route 65 continues south west to Junipero Serra Boulevard near SFSU.

Project 6-2: Clipper Street Bicycle Lanes, Douglass Street to Portola Drive

Existing Bicycle Route 60, represented by Projects 6-2, along with 6-3 and 6-4, connect 3rd Street in Potrero Hill to the Great Highway.

Project 6-3: Laguna Honda Boulevard Bicycle Lanes, Plaza Street to Woodside Avenue

Project 6-3 also connects the Presidio and Golden Gate Park to Laguna Honda Hospital and West Portal. Existing Bicycle Route 65 continues south west to Junipero Serra Boulevard near SFSU.

Project 6-4: Laguna Honda Boulevard Bicycle Lanes, Portola Drive to Woodside Avenue

Existing Bicycle Route 60, represented by Projects 6-4 along with Projects 6.2 and 6-3 also connect 3rd Street in Potrero Hill to the Great Highway.

Project 6-5: Portola Drive Bicycle Lanes, Corbett Avenue to O'Shaughnessy Boulevard

Project 6-6: Portola Drive Bicycle Lanes, O'Shaughnessy Boulevard/Woodside Avenue to Sloat Boulevard/St. Francis Boulevard

Projects 6-5 and 6-6, both on Portola Drive, are included on existing Bicycle Route 50 which is also part of the San Francisco Bay Area Regional Bikeway Network.

PROJECT DESCRIPTION

The following paragraphs describe the six near-term improvements included within the Cluster 6 area. Projects 6-1, 6-4, and 6-5 have one design option; the remaining near-term improvements

(Projects 6-2, 6-3, and 6-6) have two design options. Detailed drawings of existing and proposed lane striping and roadway geometry changes are included in Appendix B.

PROJECT 6-1: CLAREMONT BOULEVARD BICYCLE LANES, DEWEY BOULEVARD TO PORTOLA DRIVE

Project 6-1 would involve the installation of Class II and Class III bicycle facilities in both directions on Claremont Boulevard between Dewey Boulevard and Portola Drive.

Project 6-1 would install a Class II bicycle lane in the northbound direction from Portola Drive to Dewey Boulevard. In the southbound direction, Project 6-1 would add sharrows to the existing Class III bicycle route from Dewey Boulevard to Ulloa Street and add a Class II bicycle lane from Ulloa Street to Portola Drive.[30] Project 6-1 would not involve travel lane or parking removal.

PROJECT 6-2: CLIPPER STREET BICYCLE LANES, DOUGLASS STREET TO PORTOLA DRIVE

Project 6-2 would involve the installation of Class II and Class III bicycle facilities in both directions on Clipper Street between Douglass Street and Portola Drive. Project 6-2 is divided into two segments.

- **Segment I**
  Segment I would extend between Diamond Heights Boulevard and Douglass Street. Project 6-2 would install Class II bicycle lanes in both directions along Segment I by removing one travel lane in each direction and establishing a center two-way left-turn lane.

- **Segment II**
  Segment II would extend between Diamond Heights Boulevard and Portola Drive and includes two design options:

- **Segment II Option 1**
  Segment II Option 1 would replace one westbound left-turn lane on Clipper Street approaching Portola Drive with a Class II left-turn bicycle lane. This option would also install a westbound Class II bicycle lane along the north curb on Clipper Street

[30] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/ CAMUTCD-Part 9.pdf.

approaching Portola Drive. Sharrows would be added to the existing Class III bicycle route in the eastbound direction. This option would not involve parking removal.

- **Segment II Option 2**
  Segment II Option 2 would add sharrows in both directions to the existing Class III bicycle route. This option would not involve travel lane or parking removal.

PROJECT 6-3: LAGUNA HONDA BOULEVARD BICYCLE LANES, PLAZA STREET TO WOODSIDE AVENUE

Project 6-3 would involve the installation of Class II bicycle lanes in both directions on Laguna Honda Boulevard between Plaza Street and Woodside Avenue. Project 6-3 includes two design options:

- **Option 1**
  Option 1 would install a Class II bicycle lane on Laguna Honda Boulevard in the northbound direction by removing one northbound travel lane from Woodside Avenue to approximately 320 feet north of Plaza Street. Option 1 would install a Class II bicycle lane in the southbound direction on Laguna Honda Boulevard by removing one southbound travel lane from 115 feet south of Plaza Street to Dewey Boulevard. Option 1 would also install a Class II left-turn bicycle lane on southbound Laguna Honda Boulevard approaching the Laguna Honda Boulevard/Dewey Boulevard intersection. Option 1 does not involve parking removal.

- **Option 2**
  Option 2 would install Class II bicycle lanes in both directions on Laguna Honda Boulevard by widening the roadway and narrowing portions of the median. Option 2 does not involve travel lane or parking removal.

PROJECT 6-4: LAGUNA HONDA BOULEVARD BICYCLE LANES, PORTOLA DRIVE TO WOODSIDE AVENUE

Project 6-4 would add a new route to the City's existing bicycle route network on northbound Laguna Honda Boulevard from Portola Drive to Woodside Avenue.

Project 6-4 would involve creating a new bicycle route with a Class II bicycle lane in the northbound direction on Laguna Honda Boulevard from Ulloa Street to Vasquez Avenue and would involve adding sharrows on northbound Laguna Honda Boulevard from Vasquez Avenue to Woodside Avenue. Project 6-4 would involve adding a Class II bicycle lane to the existing Class III bicycle route in the southbound direction.

Project 6-4 would narrow travel lanes and establish Class II bicycle lanes in both directions by removing approximately five parking spaces. Project 6-4 would also involve consolidation of

three Muni bus stops on Laguna Honda Boulevard at Idora Avenue, Balceta Avenue, and Hernandez Avenue into one 80-foot bus zone in each direction. The proposed bus stop modification would remove approximately eight parking spaces.

PROJECT 6-5: PORTOLA DRIVE BICYCLE LANES, CORBETT AVENUE TO O'SHAUGHNESSY BOULEVARD

Project 6-5 would involve the installation of Class II bicycle lanes in both directions on Portola Drive between Corbett Avenue and the intersection of O'Shaughnessy Boulevard and Woodside Avenue.

In the eastbound direction, a Class II bicycle lane would be added to Portola Drive by removing a travel lane from O'Shaughnessy Boulevard to 300 feet easterly and by narrowing travel lanes from 300 feet east of O'Shaughnessy Boulevard to 215 feet west of Corbett Avenue.

In the westbound direction, a Class II bicycle lane would be added to Portola Drive by removing approximately four parking spaces and narrowing travel lanes from Corbett Avenue to Burnett Avenue. Project 6-5 would remove one westbound lane approaching Clipper Street and would add approximately 15 parking spaces. From Burnett Avenue to Twin Peaks Boulevard, a Class II bicycle lane would be added by narrowing travel lanes. From Twin Peaks Boulevard to Woodside Avenue, a Class II bicycle lane would be added by removing one westbound left-turn lane approaching O'Shaughnessy Boulevard.

PROJECT 6-6: PORTOLA DRIVE BICYCLE LANES, O'SHAUGHNESSY BOULEVARD/WOODSIDE AVENUE TO SLOAT BOULEVARD/ST. FRANCIS BOULEVARD

Project 6-6 would involve the installation of Class II and Class III bicycle facilities in both directions between the intersections of O'Shaughnessy Boulevard/Woodside Avenue and Sloat Boulevard/St. Francis Boulevard. Project 6-6 includes two design options:

- **Option 1**
  Option 1 would install a Class II bicycle lane in the northeast direction on Portola Drive as follows: from St. Francis Boulevard to Evelyn Way by removing approximately 240 parking spaces and from Evelyn Way to O'Shaughnessy Boulevard by removing one travel lane in the northeast direction.

  Option 1 would install a Class II bicycle lane in the southwest direction on Portola Drive as follows: from Woodside Avenue to Sydney Way/Fowler Avenue by removing one left-turn lane approaching Fowler Avenue from Sydney Way to Evelyn Way by narrowing travel lanes; and from Laguna Honda Boulevard to Waithman Way by narrowing travel lanes.

Option 1 would add sharrows to the existing Class III bicycle route on Portola Drive in the southwest direction as follows: from Evelyn Way to Laguna Honda Boulevard and from Waithman Way to Sloat Boulevard.

- **Option 2**
  Option 2 would install a Class II bicycle lane in the northeast direction on Portola Drive from St. Francis Boulevard to Evelyn Way by narrowing travel lanes.

  Option 2 would install sharrows on the existing Class III bicycle route in the northeast direction on Portola Drive from Evelyn Way to Woodside Avenue.

  Option 2 would install sharrows on the existing Class III bicycle route in the southwest direction on Portola Drive as follows: from Woodside Avenue to Laguna Honda Boulevard and from Waithman Way to Sloat Boulevard.

  Option 2 would install a Class II bicycle lane in the southwest direction by narrowing travel lanes from Laguna Honda Boulevard to Waithman Way.

PROJECT SETTING

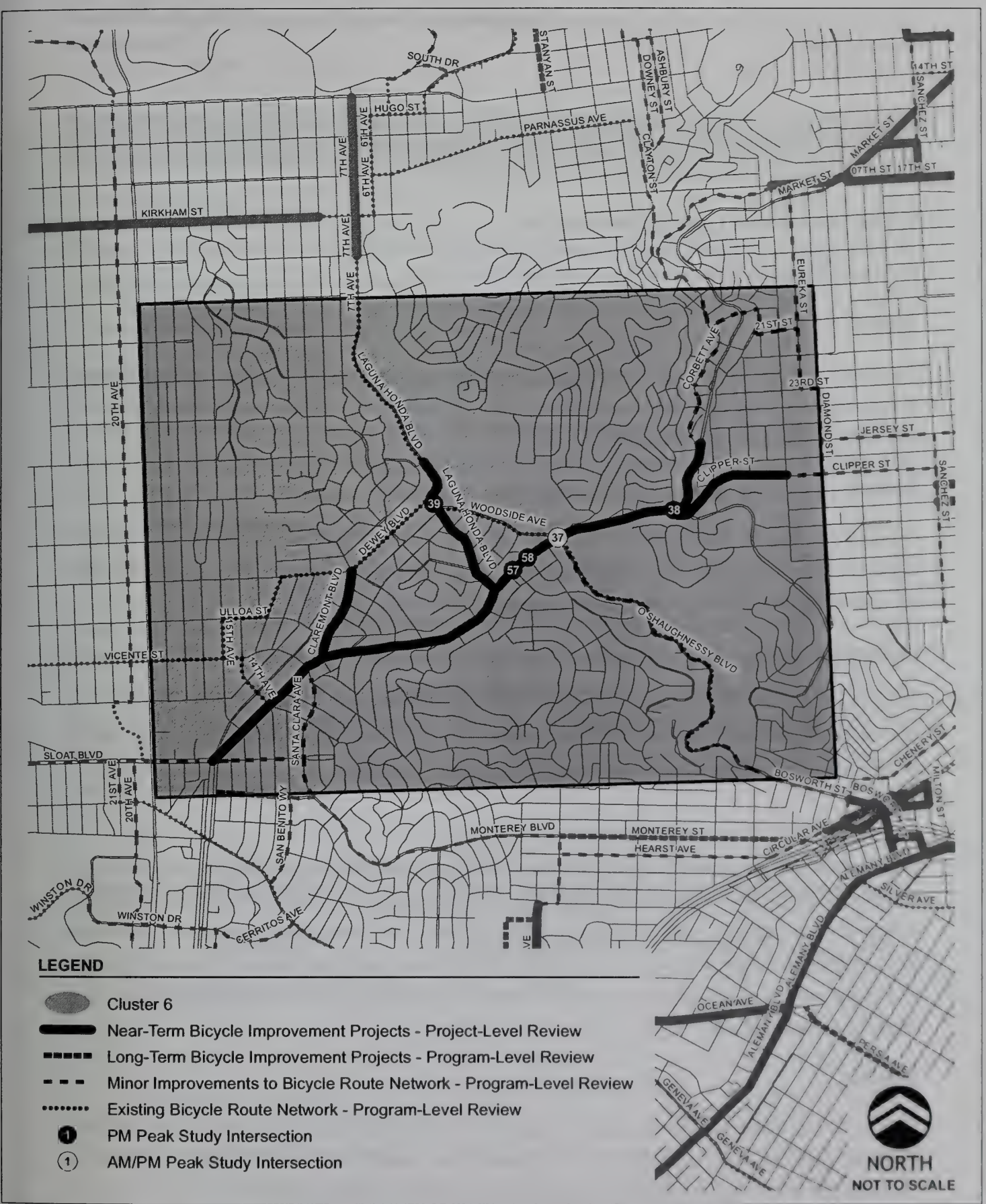
This section provides a description of the existing transportation conditions along the near-term improvements in Cluster 6. Descriptions of the existing roadway access, traffic, transit, parking, pedestrian, bicycle and loading conditions are included. The study intersections for Cluster 6 are shown on Figure V.A.3-10, p. V.A.3-149. Figures showing the turning movement traffic volumes and lane configurations at those study intersections for Existing Conditions may be found within the transportation impact analysis discussion for Cluster 6 within the transportation impact study. LOS calculation sheets for those study intersections and transit. Delay calculation sheets for the affected transit routes may be found in the appendices of the transportation impact study.[31]

PROJECT 6-1: CLAREMONT BOULEVARD BICYCLE LANES, DEWEY BOULEVARD TO PORTOLA DRIVE

Roadways

Claremont Boulevard between Portola Drive and Dewey Boulevard is a two-lane north-south secondary arterial, which is part of the MTS Roadway Network. This section has mostly residential buildings. There are two schools (Maria Montessori School and West Portal

[31] Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study.* This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File No 2007.0347E.



SOURCE: Wilbur Smith and Associates, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.3-10: CLUSTER 6 - STUDY AREA

Elementary School) on the west side of Claremont Boulevard between Allston Way and Taraval Street. Traffic volumes are generally low to moderate.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

The Muni L OWL (late night transit service) runs on Claremont Boulevard between Dewey Boulevard and Ulloa Street, but there is no transit service during the day and evening hours in this section of Claremont Boulevard.

Parking

On-street parking is permitted on both sides of the street, and parking occupancy is generally high. The west side of the street between Ulloa Street and Dewey Boulevard has a striped buffer space between the parking lane and the adjacent travel lane.

Pedestrian

Pedestrian volumes are generally low, except before and after school. The intersections of Claremont Boulevard at Ulloa Street, Dorchester Way, Allston Way, Granville Way, and Dewey Boulevard have yellow crosswalks designated as school crossings.

Bicycle

Bicycle volumes are generally low. Claremont Boulevard is designated as existing Bicycle Route 65 (Class III) in both directions between Dewey Boulevard and Portola Drive. Existing Bicycle Route 65 joins existing Bicycle Routes 60/65 (Class II) at Dewey Boulevard, and intersects existing Bicycle Route 50 (Class III) at Portola Drive. Street grades on Project 6-1 range from five to ten percent, with steeper grades approaching 18 percent on the short block between Ulloa Street and Portola Drive.

Loading

This section of Claremont Boulevard has mostly residential buildings with two gasoline stations at the intersection with Ulloa Street and a school near Dewey Boulevard. Loading activities in this area are low and there are no yellow commercial freight loading spaces.

PROJECT 6-2: CLIPPER STREET BICYCLE LANES, DOUGLASS STREET TO PORTOLA DRIVE

Roadways

Clipper Street between Portola Drive and Douglass Street is a four-lane secondary arterial. Traffic volumes are generally moderate.

Traffic: Intersection Level of Service (LOS)

Intersection 38: Burnett Avenue/Clipper Street/Portola Drive

During the weekday PM peak hour, the Burnett Avenue/Clipper Street/Portola Drive intersection operates at an acceptable level of service (LOS D), with 49.6 seconds of delay. This study intersection is common between Projects 6-2 and 6-5. Table V.6-1, p. V.A.3-151, summarizes these results.

Transit

Muni bus line 48 runs in both directions on Clipper Street between Portola Drive and Grandview Avenue with approximately five buses per hour each way during the AM and PM peak periods. Muni bus line 52 operates in both directions on Clipper Street between Portola Drive and Diamond Heights Boulevard with approximately four buses per hour each way during the AM peak period and approximately three buses per hour each way during the PM peak period.

TABLE V.6-1
CLUSTER 6– PROJECT 6-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
38.	Burnett Avenue/Clipper Street/Portola Drive	Signal	49.6	D

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

There are two bus stops along Project 6-2. One is located on the north side of Clipper Street for westbound Muni bus line 48. The second stop is an eastbound bus stop for Muni bus lines 48 and 52 located on the south side of Clipper Street between Portola Drive and Diamond Heights Boulevard.

Parking

[illegible]

Pedestrian

[illegible]

Bicycle

[illegible]

Loading

[illegible]

PROJECT #2: LAGUNA HONDA BOULEVARD BICYCLE LANES, PLACE STREET TO WOODSIDE AVENUE

Roadways

[illegible]

Traffic Intersection Level of Service (LOS)

[illegible]

During the weekday PM peak hour, the Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue intersection operates at an acceptable level of service (LOS B), with 18.7 seconds of delay. Table V.6-2, p. V.A.3-153, summarizes these results.

TABLE V.6-2
CLUSTER 6– PROJECT 6-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
39.	Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue	Signal	18.7	B

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Transit

Muni bus lines 36, 43, 44, 52, 89, and L OWL operate in both directions along Laguna Honda Boulevard between Plaza Street and Woodside Avenue. There are two bus stops: the southbound stop is located directly in front of the Forest Hill Muni Station and the northbound stop is located across the street in an exclusive turn-off area. There are approximately 19 buses per hour each way during the AM peak period and approximately 18 buses per hour each way during the PM peak period.

Parking

On-street parking is permitted on the west side of Laguna Honda Boulevard between Plaza Street and the Forest Hill Muni Station.

Pedestrian

Pedestrian volumes are moderate at the crosswalk to the Forest Hill Muni Station during the AM and PM peak periods.

Bicycle

This segment of Laguna Honda Boulevard is designated as existing Bicycle Route 65 (Class III) in both directions between Plaza Street and Dewey Boulevard and as existing Bicycle Route 60 (Class III) for the very short block between Dewey Boulevard and Woodside Avenue. North of Project 6-3, Laguna Honda Boulevard continues as existing Bicycle Route 65 (Class II). At

Dewey Boulevard, Project 6-3 intersects with existing Bicycle Routes 60/65 (Class II). Street grades along Project 6-3 are moderately steep ranging from five to ten percent.

Loading

This section of Laguna Honda Boulevard has Laguna Honda Hospital on one side and Forest Hill Muni Metro Station on the other. The passenger and Muni bus loading area are separated from the travel lane by an island. Truck loading for Laguna Honda Hospital occurs within the hospital grounds and there are no freight loading activities associated with the Muni station. While there are no existing on-street yellow commercial freight loading spaces along Project 6-3, there was also no observed demand[32] from surrounding land uses. Passenger loading is accommodated in the turn-off in front of the Forest Hill Muni Station entrance as well as on the east side across the street from the entrance.[33]

PROJECT 6-4: LAGUNA HONDA BOULEVARD BICYCLE LANES, PORTOLA DRIVE TO WOODSIDE AVENUE

Roadways

Laguna Honda Boulevard between Portola Drive and Woodside Avenue is a two-lane north-south collector. Traffic volumes are high during the AM and PM peak periods.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line 43 runs along Laguna Honda Boulevard between Portola Drive and Woodside Avenue with approximately six buses per hour in each direction during the AM and PM peak periods. There are three northbound and four southbound bus stops within this segment. The northbound bus stop, located at the nearside of Ulloa Street, and the southbound bus stop, located at the nearside of Portola Drive, are bus zones, but the remaining bus stops are pole stops.

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32 Field surveys were conducted by CHS Consulting on Wednesday, December 19, 2007 during the midday.

33 Field surveys were conducted by CHS Consulting on Wednesday, December 19, 2007 during the midday.

Parking

On-street parking is permitted on both sides of the street, and parking occupancy is relatively low during the day within this predominantly residential area.

Pedestrian

Pedestrian volumes are typically low.

Bicycle

Bicycle volumes are typically low. This segment of Laguna Honda Boulevard is designated as existing Bicycle Route 60 (Class III with wide curb lanes) southbound between Portola Drive and Woodside Avenue. Northbound existing Bicycle Route 60 is located on Woodside Avenue. Existing Bicycle Route 60 intersects with existing Bicycle Route 65 (Class III) at Laguna Honda Boulevard, existing Bicycle Routes 60/65 (Class II) at Dewey Boulevard, and existing Bicycle Route 50 (Class III) at Portola Drive. Street grades on Project 6-4 are moderately steep with slopes generally less than 10 percent with the exception of the block between Balceta Avenue, and Hernandez Avenue which has gradients greater than 12 percent.

Loading

This section of Laguna Honda Boulevard is residential. There are no on-street yellow commercial freight loading spaces in the area; freight loading demand associated with residential use is typically very low.

PROJECT 6-5: PORTOLA DRIVE BICYCLE LANES, CORBETT AVENUE TO O'SHAUGHNESSY BOULEVARD

Roadways

Portola Drive between Corbett Avenue and O'Shaughnessy Boulevard is a major arterial, which is part of the MTS Roadway Network and the CMP Network. Portola Drive is a six-lane roadway between O'Shaughnessy Boulevard and Clipper Street and continues as a four-lane roadway between Clipper Street and Corbett Avenue. Traffic volumes are moderate to high during the AM and PM peak periods.

Traffic: Intersection Level of Service (LOS)

Intersection 37: Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive

During the weekday AM peak hour, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at an unacceptable level of service (LOS E), with 60.1 seconds of delay. This study intersection is common between Projects 6-5 and 6-6. Table V.6-3, p. V.A.3-156, summarizes these results.

TABLE V.6-3
CLUSTER 6 – PROJECT 6-5
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY AM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS[b]
37.	Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive	Signal	60.1	E

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Intersection 37: Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive

During the weekday PM peak hour, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at an unacceptable level of service (LOS F), with more than 80 seconds of delay. Table V.6-4, p. V.A.3-156, summarizes these results.

TABLE V.6-4
CLUSTER 6 – PROJECT 6-5
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS[b]
37.	Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive	Signal	>80	F
38.	Burnett Avenue/Clipper Street/Portola Drive	Signal	49.6	D

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Intersection 38: Burnett Avenue/Clipper Street/Portola Drive

During the weekday PM peak hour, the Burnett Avenue/Clipper Street/Portola Drive intersection operates at an acceptable level of service (LOS D), with 49.6 seconds of delay. This study intersection is common between the two Projects 6-5 and 6-2. Table V.6-4, p. V.A.3-156, summarizes these results.

Transit

Muni bus lines 37, 48, and 52 operate along portions of Portola Drive between Corbett Avenue and O'Shaughnessy Boulevard. Muni bus line 37 runs in the westbound direction between Glenview Drive and Corbett Avenue with approximately four buses westbound during the AM and PM peak periods. Muni bus lines 48 and 52 operate in both directions between O'Shaughnessy Boulevard and Burnett Avenue with approximately nine buses each way during the AM peak period and PM peak periods. The segment between Glenview Drive and Burnett Avenue has the highest transit activity with approximately 13 westbound buses and nine eastbound buses during the AM peak period and nine buses each way during the PM peak period. There is one westbound and two eastbound bus stops along this segment.

Parking

On-street parking is not permitted between O'Shaughnessy Boulevard and Clipper Street, but is permitted on both sides of the street between Clipper Street and Corbett Avenue. Parking occupancy in this short segment is moderate.

Pedestrian

Pedestrian volumes are generally low along Project 6-5.

Bicycle

Portola Drive is designated as existing Bicycle Routes 50/55 (Class III) in both directions between Corbett Avenue and Clipper Street. From Clipper Street to O'Shaughnessy Boulevard, Portola Drive is designated as existing Bicycle Routes 50, 55, and 60 (Class III). Project 6-5 intersects with existing Bicycle Route 60 (Class III) at Clipper Street and existing Bicycle Route 55 (Class I/III) at O'Shaughnessy Boulevard. In addition, Project 6-5 connects to Project 6-6 to continue to Sloat Boulevard as discussed below. Street grades along Project 6-5 are moderately steep but mostly below ten percent. Bicycle volumes are generally low along Project 6-5.

Loading

This segment of Portola Drive has mostly residential development, except for the gasoline station at the Portola Drive/O'Shaughnessy Boulevard intersection. There are no on-street yellow commercial freight loading spaces in the area; freight loading associated with residential uses is typically very low.

PROJECT 6-6: PORTOLA DRIVE BICYCLE LANES, O'SHAUGHNESSY BOULEVARD/ WOODSIDE AVENUE TO SLOAT BOULEVARD/ST. FRANCIS BOULEVARD

Roadways

Portola Drive is a six-lane major arterial with a median between O'Shaughnessy Boulevard and Sydney Way/Fowler Avenue and a four-lane arterial road between Sydney Way/Fowler Avenue and Sloat Boulevard. Portola Drive between O'Shaughnessy Boulevard and Sloat Boulevard is part of the MTS Roadway Network and the CMP Network. Traffic volumes are generally high during the AM and PM peak periods.

Traffic: Intersection Level of Service (LOS)

Table V.6-5, p. V.A.3-158, summarizes these results.

TABLE V.6-5
CLUSTER 6 – PROJECT 6-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS[b]
37.	Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive	Signal	>80	F
57.	Evelyn Street/Portola Avenue	Signal	29.3	C
58.	Fowler Street/Portola Avenue	Signal	20	C

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Intersection 37: Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive

During the weekday PM peak hour, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at an unacceptable level of service (LOS F), with more than 80 seconds of delay. This study intersection is common between Projects 6-6 and 6-5.

Intersection 57: Evelyn Street/Portola Street

During the weekday PM peak hour, the Evelyn Street/Portola Street intersection operates at an acceptable level of service (LOS C), with 29.3 seconds of delay.

Intersection 58: Fowler Street/Portola Street

During the weekday PM peak hour, the Fowler Street/Portola Street intersection operates at an acceptable level of service (LOS C), with 20 seconds of delay. Table V.6-5, p. V.A.3-158, summarizes these results.

Transit

Muni bus lines 36, 43, and 48 run along portions of Portola Drive between Vicente Street/Santa Clara Avenue and O'Shaughnessy Boulevard. Bus frequency varies with approximately five buses per hour each way between Vicente Street/Santa Clara Avenue and Miraloma Way (Muni bus line 48), 11 buses per hour between Miraloma Drive and Laguna Honda Boulevard (Muni bus lines 43 and 48) and eight buses per hour between Laguna Honda Boulevard and O'Shaughnessy Boulevard (Muni bus lines 36 and 48) during the AM and PM peak periods. There are five bus stops in the eastbound direction and four bus stops in the westbound direction. The section of Portola Drive between Fowler Street and O'Shaughnessy Boulevard has a shopping center on the south side and a bus stop on both sides of O'Shaughnessy Boulevard.

Parking

On-street parking is permitted on both sides of the street between Sloat Boulevard and Sydney Way, except on the south side east of Evelyn Way. Parking occupancy is generally low to moderate in the middle section and high at the northern end near O'Shaughnessy Boulevard and the southern end between Claremont Boulevard and Sloat Boulevard.

Pedestrian

Pedestrian volumes are generally low along Project 6-6.

Bicycle

Portola Drive is designated as existing Bicycle Route 50 (Class III) in both directions for most of the distance between O'Shaughnessy Boulevard and Sloat Boulevard. For the one block between 15th Avenue/San Fernando Way and Sloat Boulevard, the bicycle route is designated only in the westbound direction. Existing Bicycle Route 50 intersects with existing Bicycle Route

55 (Class I/III) at O'Shaughnessy Boulevard, existing Bicycle Route 60 southbound (Class III with wide curb lanes) at Laguna Honda Boulevard, existing Bicycle Route 60 northbound (Class III) at Woodside Avenue, existing Bicycle Route 65 (Class III with wide curb lanes) at Claremont Boulevard, existing Bicycle Route 65 (Class III) at Santa Clara Avenue; existing Bicycle Route 760 (Class III with wide curb lanes) at 14th Avenue; and existing Bicycle Route 70 (Class III) at Sloat Boulevard. Street grades along Project 6-6 are moderately steep with grades from five to ten percent. Bicycle volumes are generally low.

Loading

This segment of Portola Drive has mostly residential buildings, except the segment between Evelyn Way and O'Shaughnessy Boulevard, where there is a shopping center on the east side and a gas station on the west side at the intersection with O'Shaughnessy Boulevard. Loading activity associated with residential use is typically very low and there are no on-street loading spaces in this section. Loading activity for the shopping center occurs within the surface parking lot in front of the stores, and not along Portola Drive.

CLUSTER 7: UPPER SUNSET/RICHMOND/PRESIDIO/ MARINA AREA

This section presents the project-level transportation impact analysis conducted for the near-term bicycle route network improvement projects (projects) within the Cluster 7 area, including a description of near-term improvements, their location and existing traffic, transit, parking, pedestrian, bicycle and loading conditions in the area. Traffic operation conditions with and without the project alternatives, any potential transportation impacts of the projects and possible mitigation and improvement measures are also discussed and analyzed.

PROJECT LOCATION

Cluster 7 is located in the northwestern corner of San Francisco. It is bounded by the San Francisco Bay shoreline to the north, the Pacific Ocean coastline to the west, and Moraga Street to the south. The eastern boundary is formed by Fillmore, Pacific, Locust and Clayton Streets. Much of San Francisco's parkland and beaches are contained in Cluster 7 including the Presidio, Lincoln Park, Golden Gate Park, Crissy Field, China Beach and Ocean Beach. As such, Cluster 7 is an important recreational destination for bicyclists from within San Francisco and other communities in the Bay Area. Popular attractions in Cluster 7 include the Golden Gate Bridge, the Palace of the Legion of Honor, the Cliff House, the de Young Museum and the soon to reopen California Academy of Sciences. Several residential neighborhoods (the Marina, Haight/Ashbury, Richmond District, and Upper Sunset) are also found in Cluster 7.

The existing and proposed bicycle route network in Cluster 7 (see Figure V.A.3-11 on p. V.A.3-162) provides relatively good coverage within the grid street layout of the Marina, Richmond and Upper Sunset neighborhoods. The terrain is varied, being relatively flat in the Marina, sloping down to the bay through the Presidio and sloping towards the ocean through the Richmond and Upper Sunset neighborhoods. The six near-term improvements in Cluster 7 provide upgrades to existing routes in the bicycle route network as well as an additional segment to the network and two intersection signal improvements for bicyclists. The near-term improvements are located in the southern portion of the cluster and provide important commute and recreation access to Golden Gate Park, Ocean Beach and across the western portion of the City.

Six projects are included in the Cluster 7 area. Each project and location is identified below:

Project 7-1: Intersection Improvements at 7th Avenue and Lincoln Way

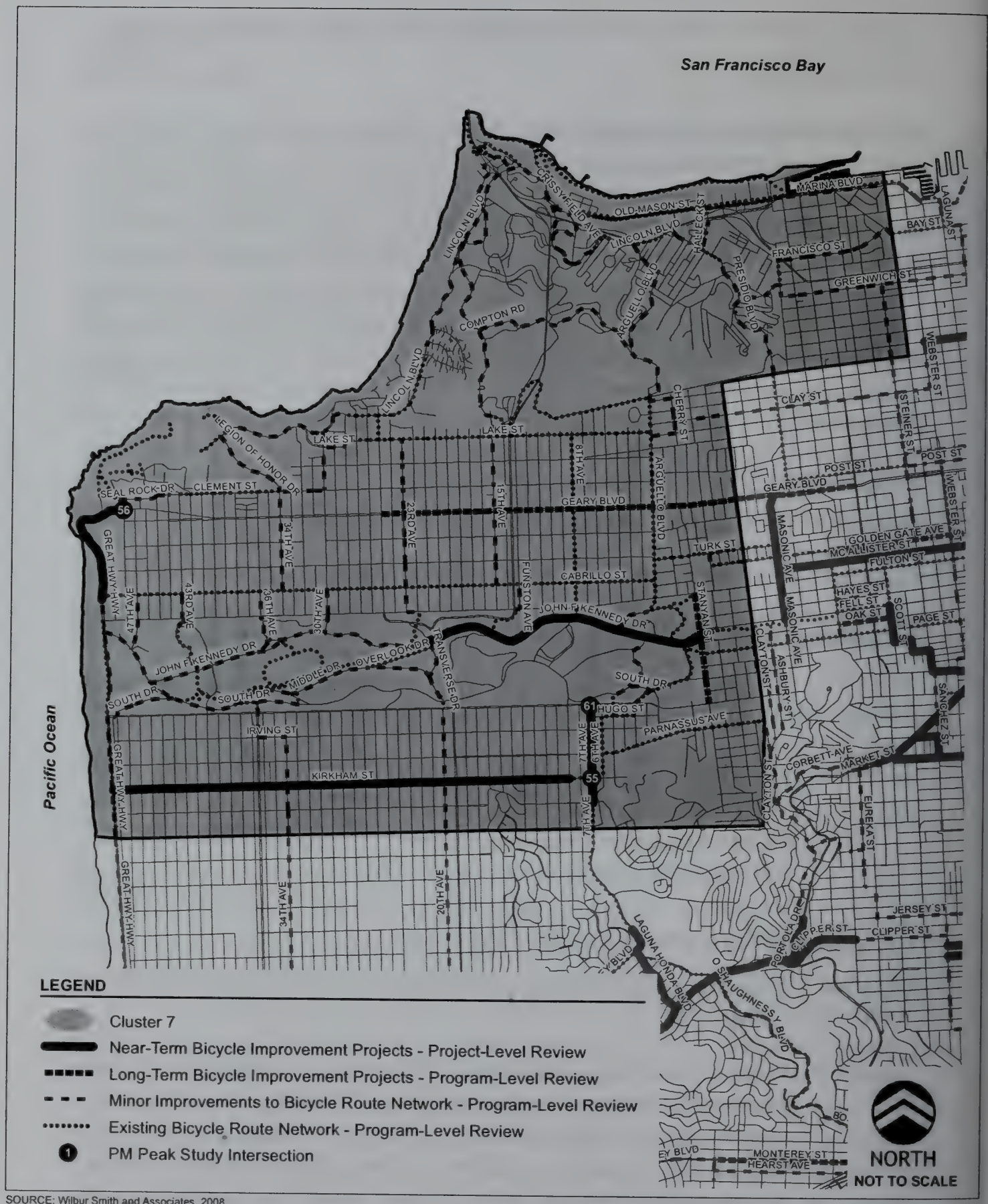
Project 7-2: 7th Avenue Bicycle Lanes, Lawton Street to Lincoln Way

Project 7-1 (partially implemented) and Project 7-2 are located on 7th Avenue at a major entrance to Golden Gate Park. Improvements at the intersection of 7th Avenue and Lincoln Way (Project 7-1) would allow northbound and southbound bicyclists on 7th Avenue to cross Lincoln Way to enter or exit the park. Currently, all vehicular traffic is prohibited from making these through movements.

Project 7-2 represents a proposed addition to the city's bicycle route network by extending existing Bicycle Route 65 on 7th Avenue from Kirkham Street north to Lincoln Way. This near-term improvement would provide a connection with the existing bicycle facilities in the Forest Hill area.

Project 7-3: Great Highway and Point Lobos Avenue Bicycle Lanes, El Camino Del Mar to Cabrillo Street

Project 7-3 would upgrade existing Bicycle Route 95 which connects with existing Bicycle Route 20 on Cabrillo Street and would provide access on the moderately steep hill adjacent to the Cliff House. This area is a popular destination for locals and out-of-towners; motor vehicle traffic is particularly heavy on weekends when bicycle use is also at its peak. It is also included on the San Francisco Bay Area Regional Bikeway Network.



SOURCE: Wilbur Smith and Associates, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.3-11: CLUSTER 7 - STUDY AREA

Project 7-4: John F. Kennedy Drive and Kezar Drive Bicycle Lanes, Stanyan Street to Transverse Drive

Project 7-4, on John F. Kennedy Drive from Stanyan Street to Transverse Drive, would upgrade a popular recreational route through Golden Gate Park which connects to the Class I Bicycle Path in the Panhandle. This near-term improvement is part of existing Bicycle Route 30, which is an important east-west bicycle connector and commuter route from The Embarcadero to Ocean Beach.

Project 7-5: Kirkham Street Bicycle Lanes, 9th Avenue to Great Highway

Project 7-5 would upgrade existing Bicycle Route 40 from a Class III bicycle route to Class II bicycle lanes. This near-term improvement is a significant link in the existing bicycle route network connecting the Sunset District to the University of California Medical Center and locations in the city to the east and Ocean Beach to the west.

Project 7-6: Page and Stanyan Streets Intersection Traffic Signal Improvements

Project 7-6 would facilitate pedestrian and bicycle access to the existing Class I pedestrian and bicycle multi-use path in Golden Gate Park, west of Stanyan Street on existing Bicycle Route 32 which connects this area of the city to Market Street, Civic Center, Financial District and SOMA.

PROJECT DESCRIPTION

The following paragraphs describe the six near-term improvements included within the Cluster 7 area. Two design options are proposed for Project 7-5; for the remaining near-term improvements in Cluster 7, only one option is proposed. Detailed drawings of existing and proposed lane striping and roadway geometry changes are included in Appendix B.

PROJECT 7-1: INTERSECTION IMPROVEMENTS AT 7TH AVENUE AND LINCOLN WAY

Project 7-1 was partially implemented in 2006. The implemented portion of Project 7-1 involved the modification of the west side of the raised median at the intersection of 7th Avenue and Lincoln Way by cutting back the median from the west crosswalk to five feet easterly to allow southbound bicyclists to cross Lincoln Way without riding in the crosswalk.

Project 7-1 would involve further modifications at the intersection of 7th Avenue and Lincoln Way to allow northbound bicyclists to cross Lincoln Way. These modifications would involve installing a cut-through in the center of the raised median for northbound bicyclists, and installing a bicycle loop detector and a bicycle traffic signal for northbound bicyclists. Project 7-1 would involve the removal of nine parking spaces on the east side of 7th Avenue due south of Lincoln Way. There are no travel lane removals or parking changes associated with Project 7-1.

PROJECT 7-2: 7TH AVENUE BICYCLE LANES, LAWTON STREET TO LINCOLN WAY

Project 7-2 would add a new route to the City's existing bicycle route network.

Project 7-2 would involve the installation of Class II and Class III bicycle facilities in both directions on 7th Avenue between Lawton Street and Lincoln Way.

Project 7-2 would install Class II bicycle lanes in both directions on 7th Avenue between Lawton Street and Judah Street by removing one southbound travel lane. From Lincoln Way to Judah Street, one travel lane would be converted to a center two-way left turn lane and sharrows[34] would be added in both directions

PROJECT 7-3: GREAT HIGHWAY AND POINT LOBOS AVENUE BICYCLE LANES, EL CAMINO DEL MAR TO CABRILLO STREET

Project 7-3 would involve the installation of Class II and Class III bicycle facilities in both directions on Great Highway and Point Lobos Avenue between Cabrillo Street and El Camino Del Mar.

Project 7-3 is divided into two segments:

- **Segment I**
  Segment I would extend along Point Lobos Avenue to Great Highway from 48th Avenue/El Camino Del Mar to Balboa Street. Project 7-3 would install Class II bicycle lanes in both directions by removing one travel lane in each direction along Segment I. The southbound Class II bicycle lane would be discontinued approaching the downhill section of Point Lobos Avenue from approximately the Sutro Heights Parking lot to approximately 600 feet north of Balboa Street. The Class II southbound bicycle lane would continue on Great Highway from approximately 600 feet north of Balboa Street to

[34] Sharrows are a traffic control device which consists of pavement markings within the traffic lane. The markings are intended to alert drivers that bicyclists share the traffic lane and also to reduce the chance of bicyclists impacting the open doors of parked vehicles. For more information on sharrows, please see http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/pdf/camutcd/ CAMUTCD-Part 9.pdf.

Balboa Street. Sharrows would be added on the travel lane at this downhill section of the road. Project 7-3 would remove approximately ten parking spaces along Segment I.

- **Segment II**
  Segment II would extend on Great Highway from Balboa Street to Cabrillo Street. Project 7-3 would install Class II bicycle lane s in both directions by narrowing the northbound travel lanes along Segment II. Project 7-3 would convert the painted buffer area between the southbound travel lanes and the parking area into a southbound Class II bicycle lane. Project 7-3 would provide a connection to the existing Class II bicycle lanes on Cabrillo Street through the Cabrillo Plaza. There would be no travel lane or parking removals along Segment II.

PROJECT 7-4: JOHN F. KENNEDY DRIVE AND KEZAR DRIVE BICYCLE LANES, STANYAN STREET TO TRANSVERSE DRIVE

Project 7-4 would involve the installation of Class II bicycle lanes in both directions on John F. Kennedy Drive from Kezar Drive to Transverse Drive and on eastbound Kezar Drive between John F. Kennedy Drive and Stanyan Street in Golden Gate Park.

Project 7-4 would add Class II bicycle lanes in both directions on John F. Kennedy Drive by narrowing existing travel lanes. A limited number of parking spaces would be removed along portions of John F. Kennedy Drive where the narrowing of travel lanes would not provide sufficient space to add Class II bicycle lanes.

Project 7-4 would convert the existing left-side shoulder next to the median on eastbound John F. Kennedy Drive approaching Kezar Drive to a left-side Class II bicycle lane. Project 7-4 would also convert the existing left-side shoulder next to the median on eastbound Kezar Drive between John F. Kennedy Drive and Stanyan Street to a left-side Class II bicycle lane.

PROJECT 7-5: KIRKHAM STREET BICYCLE LANES, 9TH AVENUE TO GREAT HIGHWAY

Project 7-5 would involve the installation of Class II bicycle lanes in both directions on Kirkham Street between 9th Avenue and Great Highway. Project 7-5 would be divided into six segments.

- **Segment I**
  Segment I would include Kirkham Street between 9th Avenue and Funston Avenue, Kirkham Street between 17th Avenue and 18th Avenue, Kirkham Street between 20th Avenue and 36th Avenue, and Kirkham Street between 37th Avenue and Great Highway. The proposed option for this segment would involve installation of Class II bicycle lanes in both directions. The proposed option would not involve travel lane or parking removal.

- **Segment II**
  Segment II would include Kirkham Street between Funston Avenue and 17th Avenue. The proposed option for this segment would involve installation of Class II bicycle lane s in both directions, with painted or raised pedestrian refuges added at the intersections. The proposal for this segment would not involve travel lane or parking removal. However, the travel lanes would be narrowed at the intersections to create the pedestrian refuge areas.

- **Segment III**
  Segment III would include Kirkham Street between 18th Avenue and 19th Avenue. There are two design options for this segment:

- **Segment III**
  Option 1 would involve removal of approximately 10 parking spaces on the north side of Kirkham Street and installation of Class II bicycle lanes in both directions. This option would not involve travel lane removal.

  Option 2 would involve installation of a Class II bicycle lane in the eastbound direction and installation of sharrows along the existing Class III bicycle route in the westbound direction on Kirkham Street. This option would not involve travel lane or parking removal.

- **Segment IV**
  Segment IV would include Kirkham Street between 19th Avenue and 20th Avenue. There are two design options for this segment:

  Option 1 would involve removal of approximately 12 parking spaces on the south side of Kirkham Street and installation of Class II bicycle lane s in both directions. This option would not involve travel lane removal.

  Option 2 would involve installation of a Class II bicycle lane in the westbound direction and installation of sharrows along the existing Class III bicycle route in the eastbound direction on Kirkham Street. This option would not involve travel lane or parking removal.

- **Segment V**
  Segment V would include Kirkham Street between 36th Avenue and Sunset Boulevard. There are two design options for this segment:

  Option 1 would involve removal of approximately four parking spaces on the north side of Kirkham Street and installation of Class II bicycle lanes in both directions. This option would not involve travel lane removal.

  Option 2 would involve installation of a Class II bicycle lane in the eastbound direction and installation of sharrows along the existing Class III bicycle route in the westbound

direction on Kirkham Street. This option would not involve travel lane or parking removal.

- **Segment VI**
  Segment VI would be Kirkham Street between 37th Avenue and Sunset Boulevard. There are two design options for this segment:

  Option 1 would involve removal of approximately four parking spaces on the south side of Kirkham Street and installation of Class II bicycle lanes in both directions. This option would not involve travel lane removal.

  Option 2 would involve installation of a Class II bicycle lane in the westbound direction and installation of sharrows along the existing Class III bicycle facility route in the eastbound direction of Kirkham Street. This option would not involve travel lane or parking removal.

PROJECT 7-6: PAGE AND STANYAN STREETS INTERSECTION TRAFFIC SIGNAL IMPROVEMENTS

Project 7-6 would involve signalization of the intersection of Page and Stanyan Streets and would include other improvements, as described below.

The proposed signal at this intersection would facilitate pedestrian and bicycle access to the existing Class I pedestrian and bicycle multi-use path in Golden Gate Park, west of Stanyan Street. Improvements would include new traffic signals and improved curb ramps. Project 7-6 would not remove any travel lanes or parking.

PROJECT SETTING

This section provides a description of the existing transportation conditions along the near-term improvements in Cluster 7. Descriptions of the existing roadway access, traffic, transit, parking, pedestrian, bicycle and loading conditions are included. The study intersections for Cluster 7 are shown on Figure V.A.3-11: Cluster 7 Study Area, p. V.A.3-162. Figures showing the turning movement traffic volumes and lane configurations at those study intersections for Existing Conditions may be found within the transportation impact analysis discussion for Cluster 7 within the transportation impact study. LOS calculation sheets for those study intersections and transit delay calculation sheets for the affected transit routes may be found in the appendices of the transportation impact study.[35]

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[35] Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study*. This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File No 2007.0347E.

PROJECT 7-1: INTERSECTION IMPROVEMENTS AT 7TH AVENUE AND LINCOLN WAY

Project 7-1 was partially implemented in 2006. The implemented portion involved the modification of the west side of the raised median at the intersection of 7th Avenue and Lincoln Way by cutting back the median from the west crosswalk to five feet easterly to allow southbound bicyclists to cross Lincoln Way without riding in the crosswalk.

Roadways

The intersection of 7th Avenue/Lincoln Way is at the southern entrance to the Golden Gate Park. At this intersection, Lincoln Way has a raised median, two travel lanes each way and an exclusive westbound left-turn lane. Left-turns from eastbound Lincoln Way into the park are prevented by the raised median. Through traffic on 7th Avenue is not permitted across Lincoln Way with the exception of southbound bicyclists with the partial implementation of Project 7-1. Other traffic traveling northbound or southbound on 7th Avenue must turn right onto Lincoln Way. Traffic volumes are generally moderate on 7th Avenue and high on Lincoln Way during the weekday PM peak period.

Traffic: Intersection Level of Service (LOS)

Intersection 61: 7th Avenue/Lincoln Way

Intersection level of service and average delay under Existing conditions is included in Table V.7-1, p. V.A.3-168.

During the weekday PM peak hour, the 7th Avenue/Lincoln Way intersection operates at an acceptable level of service (LOS B), with 12.5 seconds of delay per vehicle. This study intersection is common between Projects 7-1 and 7-2.

TABLE V.7-1
CLUSTER 7– PROJECT 7-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
61.	7th Avenue/Lincoln Way	Signal	12.5	B

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Transit

Muni bus lines 71, 71L, 16AX, and 16BX run in both directions along Lincoln Way through the 7th Avenue and Lincoln Way intersection. Muni bus lines 71L, 16AX, and 16BX operate only during weekday peak hours. The 16AX and 16BX are express routes along this segment of Lincoln Way and do not stop for passenger loading/unloading. On this segment of Lincoln Way, there are approximately 24 buses per hour eastbound and six buses per hour westbound, during the AM peak period, and approximately 6 buses per hour eastbound, and 20 buses per hour westbound, during the PM peak period. There are approximately five buses per hour each way at other times.

Parking

Lincoln Way and 7th Avenue have on-street parking on both sides of the street; parking occupancy is generally high especially during weekend midday hours due to visitors to Golden Gate Park.

Pedestrian

A pedestrian crosswalk is located on the west side of 7th Avenue crossing Lincoln Way. Pedestrian volumes at this crossing are low on a typical weekday and moderate on weekends. As a result of the partial implementation of Project 7-1, the raised median located in the center of the intersection was cut back from the west crosswalk to five feet easterly. This modification is beneficial to pedestrians crossing Lincoln Way while southbound bicyclists simultaneously are able to cross Lincoln Way outside of the crosswalk boundaries.

Bicycle

There are no existing bicycle route designations at this intersection. 6th Avenue is the closest street with existing bicycle facilities. Street grades through the intersection are flat. Bicycle volumes at this crossing are low on a typical weekday and moderate on weekends. With partial implementation of Project 7-1, southbound cyclists on 7th Street can cross Lincoln Way without intruding on the pedestrian crosswalk.

Loading

There are no designated on-street loading zones at this intersection or within a block of this location.

PROJECT 7-2: 7TH AVENUE BICYCLE LANES, LAWTON STREET TO LINCOLN WAY

Roadways

7th Avenue between Lawton Street and Lincoln Way is a north-south secondary arterial road, with two southbound lanes and one northbound lane and on-street parking on both sides of the street. This section is part of the MTS Roadway Network. Traffic volumes are moderate to high during the PM peak period.

Traffic: Intersection Level of Service (LOS)

Intersection level of service and average delay under Existing conditions is included in Table V.7-2, p. V.A.3-170.

Intersection 55: 7th Avenue/Kirkham Street

During the weekday PM peak hour, the 7th Avenue/Kirkham Street intersection operates at an acceptable level of service (LOS C), with 22.3 seconds of delay per vehicle.

Intersection 61: 7th Avenue/Lincoln Avenue

During the weekday PM peak hour, the 7th Avenue/Lincoln Way intersection operates at an acceptable level of service (LOS B), with 12.5 seconds of delay per vehicle.

TABLE V.7-2
CLUSTER 7– PROJECT 7-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
55.	7th Avenue/Kirkham Street	Signal	22.3	C
61.	7th Avenue/Lincoln Way	Signal	12.5	B

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Transit

There are no transit lines operating on this section of 7th Avenue.

Parking

On-street parking is generally permitted on both sides of the street. This section of 7th Avenue is within the RPP Zone J and vehicles without a residential permit are subject to a 2-hour maximum time limit for on-street parking.

Pedestrian

Pedestrian volumes are low.

Bicycle

Bicycle volumes approaching Lincoln Way are low to moderate on weekdays and moderate to high during the weekend. Bicycle volumes along the rest of the corridor are low to moderate. There are sharrows painted in both directions along 7th Avenue between Kirkham and Lawton Streets which is existing Bicycle Route 65 (Class III). Route 65 continues south on 7th Avenue with Class II bicycle lanes. Project 7-2 intersects existing Bicycle Route 40 (Class II) at Kirkham Street. Project 7-2 slopes down to the north with grades ranging from three percent to five percent.

Loading

The segment of 7th Avenue between Lawton and Lincoln Way has mostly residential buildings with a few retail businesses. Loading demand is relatively low and takes place within the on-street parking spaces. No conflicts between loading vehicles and bicyclists were observed[36] during field visits.

PROJECT 7-3: GREAT HIGHWAY AND POINT LOBOS AVENUE BICYCLE LANES, EL CAMINO DEL MAR TO CABRILLO STREET

Roadways

Great Highway and Point Lobos Avenue are four-lane (two lanes each way) recreational streets between Cabrillo Street and El Camino del Mar. Traffic volumes are generally moderate during the PM peak period.

[36] Field surveys were conducted by CHS Consulting on Monday, November 26, 2007 during the midday.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour. Intersection level of service and average delay under Existing conditions is included in Table V.7-3, p. V.A.3-172.

Intersection 56: 48th Avenue/Point Lobos Avenue

During the weekday PM peak hour, the 48th Avenue/Point Lobos Avenue intersection operates at an acceptable level of service (LOS B), with 10.7 seconds of delay.

TABLE V.7-3
CLUSTER 7– PROJECT 7-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING CONDITIONS
WEEKDAY PM PEAK HOUR

	Intersection	Traffic Control Device	Average Delay[a]	LOS
56.	48th Avenue/Point Lobos Avenue	Signal	10.7	B

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Transit

Muni bus line 18 runs in both directions along Point Lobos Avenue between Balboa Street and El Camino del Mar with approximately four buses per hour each way during the AM and PM peak periods. The bus stop for this Muni bus line is located at the 48th Avenue/El Camino Del Mar at the intersection with an additional westbound stop near the Cliff House.

Parking

On-street parking, most of it at an angle, is permitted only on the north and west sides of the Great Highway/Point Lobos Avenue. In addition, several public parking lots are located on both sides of Point Lobos and the Great Highway. The National Park Service (NPS) is constructing a new parking lot with 135 spaces on Point Lobos Avenue north of the Cliff House. Parking occupancy is generally low to moderate on weekdays along Project 7-3 and high on weekends especially near the Cliff House restaurant on the west side of Point Lobos Avenue. There currently is no designated tour bus parking in the area although the new NPS parking lot would include five bus parking bays. Tour bus visits to the Cliff House have declined over the years; most tour buses travel slowly through the area without stopping, while some tour buses stop for a few minutes to allow their passengers to disembark to take pictures.

Pedestrian

Pedestrian volumes are low to moderate on weekdays along Point Lobos Avenue and the Great Highway; pedestrian traffic is high near the Cliff Restaurant on the west side of Point Lobos Avenue, especially on weekends. Attractions in the area include the Cliff House Restaurant and neighboring retail businesses, Sutro Baths, Ocean Beach and trails connecting to the Golden Gate National Recreation Area. In addition, Project 7-3 terminates one block from the western edge of Golden Gate Park closest to the Dutch Windmill, Beach Chalet and soccer fields.

Bicycle

Bicycle volumes in the area are low to moderate on weekdays and higher on weekends and near the Cliff House. There are several bicycle/pedestrian path entrances to the Golden Gate National Recreational Area (GGNRA) directly across from Point Lobos and the Great Highway. Point Lobos Avenue and the Great Highway are designated as existing Bicycle Route 95 (Class III) in both directions along the length of Project 7-3. Existing Route 95 intersects with existing Bicycle Route 20 (Class II) at Cabrillo Street. Street grades along Project 7-3 are mostly flat from Cabrillo Street to Balboa Street. North of Balboa Street, Point Lobos Avenue reaches gradients of ten percent.

Loading

Freight loading activity taking place in this area is associated with the Cliff House restaurant and adjacent administrative offices and retail stores. There are no on-street yellow freight commercial loading spaces along this segment of the Great Highway. It was observed[37] that available on-street parking spaces are generally adequate to accommodate the loading demand with occasional truck double-parking in the wide angle-parking lane just north of the Cliff House or in the passenger loading zone located in front of the Cliff House entrance. As was previously mentioned, tour bus activity in the area has declined over the years so that there is little demand for tour bus parking/loading zones. This activity is accommodated for the short-term stops in the passenger loading zone in front of the Cliff House entrance or in the wide angle-parking lane just north of the Cliff House. The new NPS lot would include parking for five tour buses.

[37] Field surveys were conducted by CHS Consulting on Monday, November 26, 2007 during the midday.

PROJECT 7-4: JOHN F. KENNEDY DRIVE AND KEZAR DRIVE BICYCLE LANES, STANYAN STREET TO TRANSVERSE DRIVE

Roadways

John F. Kennedy Drive between Stanyan Street and Transverse Drive is a two-lane (one lane each way) east-west recreational street within Golden Gate Park. Traffic volumes are low. John F. Kennedy Drive between Stanyan Street and Transverse Drive is closed to motor vehicles from 6:00 a.m. until 6:00 p.m. on Sundays and Saturdays from the beginning of April through the end of September.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

There are no transit lines on John F. Kennedy Drive.

Parking

On-street parking is permitted on both sides of John F. Kennedy Drive. Because John F. Kennedy Drive is mostly a recreational street that serves those visiting Golden Gate Park, parking occupancy, is relatively low on weekdays and moderate to high on Saturdays when the road is open to motor vehicle traffic.

Pedestrian

Pedestrian volumes along Project 7-4 are typically low on weekdays and moderate to very high on weekends, especially during the summer. There are sidewalks on both sides of John F. Kennedy Drive. Pedestrians generally use the sidewalks on weekdays but are allowed the use of the full roadway when the road is closed to motor vehicle traffic.

Bicycle

John F. Kennedy Drive is designated as existing Bicycle Route 30 (Class III with wide curb lanes) and existing Bicycle Route 830 (Class I) in both directions between Kezar Drive and Transverse Drive. A short segment of existing Bicycle Route 30 between 8th and 10th Avenues is signed as Class III. There is a short segment of Class II bicycle lane on westbound John F. Kennedy Drive between Stanyan Street and Kezar Drive. Existing Bicycle Routes 30/830 intersects with existing Bicycle Route 75 (Class III with wide curb lanes) at Transverse Drive, existing Bicycle Route 69 (Class I) east of Stow Lake, existing Bicycle Route 330 (Class III with

wide curb lanes) at 8th Avenue, existing Bicycle Route 65 (Class III with wide curb lanes) at the Conservatory of Flowers on Conservatory Drive and Middle Dr E and existing Route 32 (Class I) and existing Route 365 (Class I) at Kezar Drive. Route 30 continues to the east of Stanyan Street as Class I through the Panhandle.

Street grades along Project 7-4 are relatively flat with slopes below a five percent gradient. Bicycle volumes are relatively low on weekdays and moderate to very high on good weather weekends and in the summer. No conflicts have been noted between pedestrians and bicyclists on weekends when the road is closed to motor vehicle traffic and pedestrians are allowed the full use of the roadway.

Loading

This segment is located within the Golden Gate Park with recreational uses that typically do not have a loading demand.

PROJECT 7-5: KIRKHAM STREET BICYCLE LANES, 9TH AVENUE TO GREAT HIGHWAY

Roadways

Kirkham Street between 9th Avenue and the Great Highway is a two-lane (one lane each way) east-west local street in a predominantly residential area with neighborhood schools and some retail businesses. Traffic volumes are generally low.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

There are no transit lines on this section of Kirkham Street.

Parking

On-street parking is permitted along both sides of the street, and parking occupancy is generally low on most sections.

Pedestrian

Pedestrian volumes are generally low, except before and after school at the two elementary schools and two elementary-junior high schools in the area (Francis Scott Key Elementary at Kirkham Street and 43rd Avenue, Holy Name School at 40th Avenue and Lawton Street, Lawton

Alternative School at 31st Avenue and Lawton Street, and Alice Fong Yu Alternative Elementary School at 12th Avenue and Lawton Street). Intersections along Kirkham Street at 43rd, 42nd, 40th, 39th, 31st, 30th, and 29th Avenues, Funston Street, and 12th Avenue have yellow crosswalks designated as school crossings.

Bicycle

Kirkham Street is designated as existing Bicycle Route 40 (Class III) in both directions between 9th Avenue and the Great Highway. Existing Bicycle Route 40 intersects existing Bicycle Route 95 (Class I and Class III with wide curb lanes) at the Great Highway, existing Bicycle Route 85 (Class III with wide curb lanes) at 34th Avenue, existing Bicycle Route 75 (Class III with wide curb lanes) at 20th Avenue and continues as Route 40 (Class II on Kirkham to the east of 9th Avenue. Bicycle volumes are generally low. Project 7-5 has rolling topography with the steepest slopes (five percent to ten percent) between 10th and Funston Avenues, between 17th and 20th Avenues; and between 34th Avenue and the Great Highway.

Loading

Most of this segment is residential and on-street loading activities are low. Loading activities are usually accommodated with on-street parking. No deficiencies in loading facilities or conflicts between loading activities and bicyclists were observed.[38]

PROJECT 7-6: PAGE AND STANYAN STREETS INTERSECTION TRAFFIC SIGNAL IMPROVEMENTS

Roadways

The intersection of Page and Stanyan Streets is a T-intersection located at a pedestrian/bicycle entrance to the east side of Golden Gate Park. This intersection is currently controlled by a STOP sign on the westbound approach of Page Street. Traffic volumes are moderate to high on Stanyan Street and low to moderate on Page Street during the PM peak period.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

[38] Field surveys were conducted by CHS Consulting on Monday, November 26, 2007 during the midday.

Transit

Muni bus line 33 runs in both directions along Stanyan Street with approximately four buses per hour each way during the AM and PM peak periods. There are no bus stops at this intersection.

Parking

On-street parking is permitted on both sides of Stanyan and Page Streets, and parking occupancy is moderate to high, particularly on weekends.

Pedestrian

Pedestrian volumes are generally moderate but relatively high during weekends when recreational activities take place at Golden Gate Park. There are marked crosswalks across Page and Stanyan Streets. The east side of Stanyan Street has restaurants, retail stores, and bicycle shops with repair and rental services.

Bicycle

Page Street is designated as existing Bicycle Route 32 (Class III with wide curb lanes and sharrows). Stanyan Street has no existing bicycle facilities. Existing Bicycle Route 32 becomes a multi-use Class I facility west of Stanyan Street, once inside Golden Gate Park. Topography along Project 7-6 is flat. Bicycle volumes are generally high during weekends, especially during summer months, and typically moderate at other times.

Loading

There are no designated on-street loading zones at this intersection or within a block of it. Loading activities are usually accommodated on the street and no deficiencies or conflicts have been observed[39] with existing bicycle activities along this street.

CLUSTER 8: LOWER SUNSET/INGLESIDE AREA

This section presents the project-level transportation impact analysis conducted for the near-term bicycle route network improvement projects (near-term improvements) within the Cluster 8 area, including a description of the near-term improvements, their location and existing traffic, transit, parking, pedestrian, bicycle, and loading conditions in the area. The project

[39] Field surveys were conducted by CHS Consulting on Monday, November 26, 2007 during the midday.

alternatives, any potential transportation impacts of the near-term improvements and possible mitigation and improvement measures are also discussed and analyzed.

PROJECT LOCATION

Cluster 8 is located in the southwest corner of San Francisco. It is bounded by Moraga Street to the north, the Pacific Ocean coastline to the west, and the city boundary to the south. The eastern boundary is formed by 19th Avenue from Moraga Street to Sloat Boulevard, then eastward to include a southwest sliver of Mt. Davidson, a portion of Ingleside and Park Merced. The cluster contains many residential neighborhoods as well as several recreational attractions including Ocean Beach, Harding Park, Lake Merced, San Francisco Zoo, Stern Grove, Fort Funston, SFSU, and the Stonestown Galleria Shopping Center.

The five near-term improvements contained in Cluster 8 (see Figure V.A.3-12 on p. V.A.3-179) are all included on the San Francisco Bay Area Regional Bikeway Network. They provide important connections within the City as well as links to regional destinations. The near-term improvements in Cluster 8 would provide upgrades to existing bicycle routes and add one additional segment to San Francisco's existing bicycle route network. The terrain is relatively flat, sloping towards the ocean.

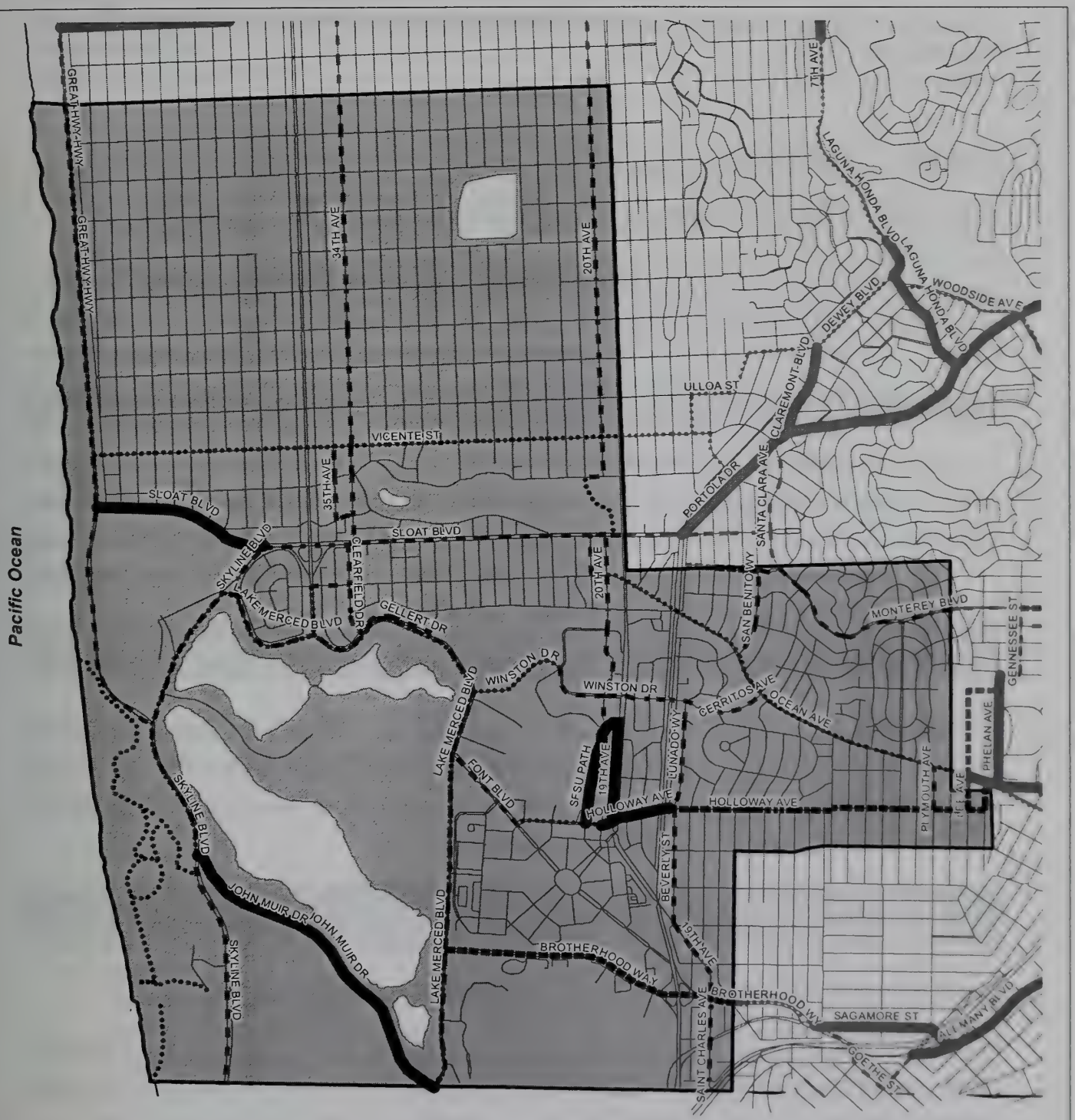
Five projects are included in Cluster 8. Each project is identified below:

Project 8-1: 19th Avenue mixed-use path, Buckingham Way to Holloway Avenue

Project 8-2: Buckingham Way Bicycle Lanes, 19th Avenue to 20th Avenue

Project 8-3: Holloway Avenue Bicycle Lanes, Junipero Serra Boulevard to Varela Avenue

Projects 8-1, 8-2 and 8-3 are centered in the vicinity of SFSU and the Stonestown Galleria providing improved bicycle access to both these important destinations. Project 8-1 includes a proposed mixed-use path which is an addition to the existing bicycle route network. Projects 8-2 (existing Bicycle Route 75) and 8-3 (existing Bicycle Route 90) propose bicycle lanes on existing Class III bicycle route facilities. Together these near-term improvements are part of the system through San Francisco, north to the Golden Gate Bridge and Marin County and south to Daly City, to ultimately connect with Highway 35 (Skyline Boulevard) and locations in San Mateo County.



LEGEND

- Cluster 8
- Near-Term Bicycle Improvement Projects - Project-Level Review
- Long-Term Bicycle Improvement Projects - Program-Level Review
- Minor Improvements to Bicycle Route Network - Program-Level Review
- Existing Bicycle Route Network - Program-Level Review

NORTH
NOT TO SCALE

SOURCE: Wilbur Smith and Associates, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.3-12: CLUSTER 8 - STUDY AREA

Project 8-4: John Muir Drive Bicycle Lanes, Lake Merced Boulevard to Skyline Boulevard

Project 8-5: Sloat Boulevard Bicycle Lanes, Great Highway to Skyline Boulevard

Projects 8-4 and 8-5 would also upgrade existing facilities on the San Francisco bicycle route network from Class III bicycle routes to Class II bicycle lanes. Project 8-4 is located on John Muir Drive through Harding Park on the southern banks of Lake Merced; it is included on existing Bicycle Route 91 connecting Lake Merced Boulevard with Skyline Boulevard. Project 8-5 is located on Sloat Boulevard (existing Bicycle Route 50). Both Project 8-4 and 8-5 would connect with the regional network at the Great Highway and Skyline Boulevard which connect the Golden Gate Bridge and Marin County with San Mateo County. Existing Bicycle Route 50 is a major east-west connector linking the Great Highway with the Ferry Building on San Francisco Bay.

PROJECT DESCRIPTION

The following paragraphs describe the five near-term improvements included within the Cluster 8 area. Two design options are proposed for Projects 8-1 and 8-3; the remaining projects have only one proposed option. Detailed drawings of existing and proposed lane striping and roadway geometry changes are included in Appendix B.

PROJECT 8-1: 19TH AVENUE MIXED-USE PATH, BUCKINGHAM WAY TO HOLLOWAY AVENUE

Project 8-1 would add a new route to the City's existing bicycle route network.

Project 8-1 would involve the installation of a two-way Class I bicycle path between Buckingham Way and Holloway Avenue, either along the west side of 19th Avenue or through the SFSU campus. Project 8-1 includes two design options:

- **Option 1**
  Option 1 would add a two-way Class I bicycle path along the west side of 19th Avenue between Buckingham Way and Holloway Avenue by removing approximately 45 vehicle and 35 motorcycle parking spaces and by shifting the existing sidewalk westerly into the SFSU campus right-of-way. Approximately 300 feet north of Holloway Avenue, the path would shift westerly into the campus to avoid conflicts with the existing transit stop and main pedestrian entrance to campus, and would terminate at Holloway Avenue near Cardenas Avenue.

- **Option 2**
  Option 2 would add a two-way Class I bicycle path through the SFSU campus between Buckingham Way and Holloway Avenue, as called for in the SFSU Campus Master Plan. Long-term SFSU plans include building a new bicycle and pedestrian bridge with a 32-foot wide deck through SFSU. The proposed bridge would connect the student housing complex University Park North, with the north side of Thornton Hall. The proposed bridge would provide two 10-foot sidewalks for pedestrians and two 6-foot Class I unidirectional bicycle paths for bicyclists.

PROJECT 8-2: BUCKINGHAM WAY BICYCLE LANES, 19TH AVENUE TO 20TH AVENUE

Project 8-2 would involve the installation of Class II bicycle lanes in both directions on Buckingham Way between 19th Avenue and 20th Avenue. Class II bicycle lanes would be added in both directions on Buckingham Way by narrowing travel lanes and removing approximately 10 parking spaces on the north side of Buckingham Way.

PROJECT 8-3: HOLLOWAY AVENUE BICYCLE LANES, JUNIPERO SERRA BOULEVARD TO VARELA AVENUE

Project 8-3 would involve the installation of Class II bicycle lanes in both directions on Holloway Avenue between Junipero Serra Boulevard and Varela Avenues. Project 8-3 includes two design options:

- **Option 1**
  Option 1 would remove one travel lane in each direction and install Class II bicycle lanes in both directions on Holloway Avenue.

- **Option 2**
  Option 2 would install Class II bicycle lanes in both directions by removing approximately 50 parking spaces on Holloway Avenue between Junipero Serra Boulevard and 19th Avenue and removing approximately seven parking spaces on the south side of Holloway Avenue between 19th and Varela Avenues. The eastbound Holloway Avenue approach to 19th Avenue would be striped with a Class II bicycle lane, one shared through-right traffic lane, and one left-turn only lane.

PROJECT 8-4: JOHN MUIR DRIVE BICYCLE LANES, LAKE MERCED BOULEVARD TO SKYLINE BOULEVARD

Project 8-4 would involve the installation of Class II bicycle lanes in both directions on John Muir Drive between Lake Merced Boulevard and Skyline Boulevard.

Project 8-4 would add continuous Class II bicycle lanes in both directions. Project 8-4 would involve modifying the existing parking on the south side of John Muir Drive by implementing back-in angled parking. Project 8-4 would not involve travel lane or parking removals.

PROJECT 8-5: SLOAT BOULEVARD BICYCLE LANES, GREAT HIGHWAY TO SKYLINE BOULEVARD

Project 8-5 would involve the installation of Class II bicycle lanes in both directions on Sloat Boulevard between Great Highway and Skyline Boulevard.

Project 8-5 would remove one travel lane in the westbound direction between Skyline Boulevard and Lower Great Highway and remove one travel lane in the eastbound direction from Lower Great Highway to 41st Avenue. There would be no parking loss associated with Project 8-5.

Project 8-5 would include the installation of a bicycle box at the intersection of Sloat Boulevard at Great Highway in the westbound direction. A bicycle box is a striping treatment that includes a Class II bicycle lane leading to a box situated in advance of a crosswalk, with an advance stop limit bar for motor vehicles to allow bicyclists to move in front of a queue of motor vehicle traffic and position themselves for a through or left-turn movement during a red signal.

On the eastbound approach to Skyline Boulevard, Project 8-5 would establish a "Right Lane Must Turn Right Except for Muni" regulation on Sloat Boulevard from 350 feet west of Skyline Boulevard to Skyline Boulevard. Project 8-5 would convert a Muni bus stop on eastbound Sloat Boulevard at Skyline Boulevard into a bus zone and would relocate the westbound mid-block bus zone at Sloat Boulevard and Lower Great Highway to 47th Avenue.

Project 8-5 would establish a "Right Lane Must Turn Right Except for Muni" regulation for westbound Sloat Boulevard between 37th Avenue and 39th Avenue, reducing the through movement to one travel lane. This would allow the addition of a westbound bicycle lane on Sloat Boulevard beginning at 37th Avenue.

PROJECT SETTING

This section provides a description of the existing transportation conditions along the five near-term improvements in Cluster 8. Descriptions of the existing roadway access, traffic, transit, parking, pedestrian, bicycle and loading conditions are included.

PROJECT 8-1: 19TH AVENUE MIXED-USE PATH, BUCKINGHAM WAY TO HOLLOWAY AVENUE

Roadways

19th Avenue between Buckingham Way and Holloway Avenue is a six-lane north-south major arterial with a center median. This segment is part of the MTS Roadway Network and the CMP Network. Left turns from 19th Avenue onto Holloway Avenue are not permitted from either the northbound or southbound approaches. Traffic volumes on 19th Avenue are high, especially during AM and PM peak commute hours.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus lines 17, 28, and 28L run in both directions along 19th Avenue between Buckingham Way and Holloway Avenue, with approximately 12 buses per hour each way during the AM peak period and eight buses per hour each way during the PM peak period. There is one southbound bus stop on 19th Avenue between Buckingham Way and Holloway, located on the nearside of Holloway Avenue.

Muni light rail line M-Oceanview runs in the center median on a separate right-of-way with approximately seven trains per hour each way during the AM and PM peak periods. The SFSU station for the M-Oceanview is located in the center median on the north side of the 19th Avenue/Holloway Avenue intersection.

Parking

On-street parking is permitted on both sides of the street, and parking occupancy is very high when SFSU is in session.

Pedestrian

Pedestrian volumes are generally high during weekday morning, noon, and afternoon hours at Holloway Avenue, and on the west side of 19th Avenue when SFSU is in session; pedestrian volumes are generally low on the east side of 19th Avenue.

Bicycle

Bicycle volumes are generally low to moderate. There are no existing bicycle route designations in this section of 19th Avenue. Project 8-1 intersects with the existing Bicycle Route 75 (Class III) at Buckingham Way and existing Bicycle Route 90 (Class II/III) at Holloway Avenue. Street grades along Project 8-1 are relatively flat with gradients less than five percent.

Loading

This segment of 19th Avenue has the SFSU campus on the west side. Freight loading activities related to SFSU occur in off-street facilities. Passenger loading, from the SFSU shuttle bus service to BART, takes place on the west side of 19th Avenue, north of Holloway Avenue. There are no on-street yellow commercial freight loading spaces along this segment of 19th Avenue.

PROJECT 8-2: BUCKINGHAM WAY BICYCLE LANES, 19TH AVENUE TO 20TH AVENUE

Roadways

Buckingham Way between 19th Avenue and 20th Avenue is an east-west local street with two travel lanes (one lane each way). Traffic volumes are generally moderate during the PM peak period.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line 18 and SamTrans bus line 122 run westbound only along Buckingham Way; there are no bus stops within this section. There are approximately seven buses per hour each way during the AM and PM peak periods.

Parking

On-street parking is permitted on both sides of the street, and occupancy is generally high in this area because the Stonestown Galleria Shopping Center is located on the north side and SFSU is located on the south side of Buckingham Way.

Pedestrian

Pedestrian volumes are generally moderate to high during the weekday morning, noon, and afternoon peak hours when SFSU students use the sidewalks and crosswalk at Buckingham Way and 19th Avenue.

Bicycle

Bicycle volumes are generally low. Buckingham Way is designated as existing Bicycle Route 75 (Class III) in both directions for the one block between 19th and 20th Avenues. Existing Bicycle Route 75 continues north from Buckingham Way on 20th Avenue to intersect existing Bicycle Route 86 (Class III) at Winston Drive. Street grades along Project 8-2 are relatively flat with gradients less than five percent.

Loading

This short segment of Buckingham Way has no freight loading activity or demand. The Stonestown Galleria Shopping Center parking lot is located on the north side of Buckingham Way. Off-street loading docks are located on Buckingham Way west of 20th Avenue. The south side of this road has residential apartments that do not rely on on-street spaces for loading. There are no on-street yellow commercial freight loading spaces along this segment of Buckingham Way.

PROJECT 8-3: HOLLOWAY AVENUE BICYCLE LANES, JUNIPERO SERRA BOULEVARD TO VARELA AVENUE

Roadways

Holloway Avenue is an east-west local street with four travel lanes (two each way) between Junipero Serra Boulevard and Varela Avenue. Traffic volumes are generally high west of 19th Avenue and moderate between 19th Avenue and Junipero Serra Boulevard during the AM and PM peak periods.

Traffic: Intersection Level of Service(LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line 29 runs in both directions along Holloway Avenue between Junipero Serra Boulevard and Varela Avenue with approximately six buses per hour each way during the AM

and PM peak periods. There is one bus stop located on the far side of Junipero Serra Boulevard within a 17-foot westbound travel lane.

Parking

On-street parking is permitted on both sides of the street, and parking occupancy is high along the corridor when SFSU is in session.

Pedestrian

Pedestrian volumes are generally low east of 19th Avenue, but moderate to high in the vicinity of the SFSU campus at 19th Avenue.

Bicycle

Holloway Avenue is designated as existing Bicycle Route 90 (Class III) in both directions between Junipero Serra Boulevard and Varela Avenue and Class II bicycle lanes on the block between Varela Avenue and Font Boulevard. Street grades along Project 8-3 are moderate ranging from five percent to ten percent. Bicycle volumes are generally moderate in the vicinity of the SFSU campus west of 19th Avenue and low east of 19th Avenue.

Loading

The segment of Holloway Avenue, west of 19th Avenue includes the SFSU campus on the north side and the Parkmerced residential complex on the south side; single-family residential buildings are located on Holloway Avenue, east of 19th Avenue. SFSU loading facilities are located on campus. Loading activity for the residential buildings is primarily associated with mail or parcel delivery; this demand is usually low and can be accommodated by on-street parking spaces.

PROJECT 8-4: JOHN MUIR DRIVE BICYCLE LANES, LAKE MERCED BOULEVARD TO SKYLINE BOULEVARD

Roadways

John Muir Drive between Lake Merced Boulevard and Skyline Boulevard is a two-lane (one each way) north-south recreational street. Traffic volumes are generally low.

Traffic: Intersection Level of Service(LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line 18 runs in both directions between Lake Merced Boulevard and approximately 1,000 feet south of Skyline Boulevard; Muni bus line 88 operates in both directions along the full length of Project 8-4. There are bus stops at each of the three pedestrian crosswalks on both sides of John Muir Drive. There are approximately seven southbound buses and four northbound buses per hour during the AM peak period. During the PM peak period, there are approximately four southbound buses and ten northbound buses per hour.

Parking

On-street parking occupancy is relatively low during weekdays, but moderate to high on weekends for recreation.

Pedestrian

There are sidewalks only on the east side of John Muir Drive. Pedestrian volumes are relatively low during weekdays but moderate to high on weekends.

Bicycle

John Muir Drive is designated as existing Bicycle Route 91, which includes a narrow northbound multi-use path (Class I) that is discontinuous. Project 8-4 is also a Class III bicycle route in both directions Lake Merced Boulevard to Skyline Boulevard. Existing Bicycle Route 91 intersects existing Bicycle Route 85 (Class I/III) at Lake Merced Boulevard and existing Bicycle Route 95 (Class I/III) at Skyline Boulevard. Street grades along Project 8-4 are generally flat with gradients below five percent. Bicycle volumes are relatively low during weekdays but moderate to high on weekends for recreation.

Loading

This area is mostly used for recreational purposes (Lake Merced on the north side of John Muir Drive and the Olympic Golf Club on the south side) with the exception of an apartment complex on the south side of John Muir Drive near Skyline Boulevard. There is little freight or passenger loading demand associated with the recreational uses; loading demands for the apartment complex are accommodated by the on-street parking in located in front of the complex.

PROJECT 8-5: SLOAT BOULEVARD BICYCLE LANES, GREAT HIGHWAY TO SKYLINE BOULEVARD

Roadways

Sloat Boulevard between the Great Highway and Skyline Boulevard is a six-lane (three lanes each way) east-west major arterial with a six-foot median. This section is part of the MTS Roadway Network and the CMP Network. Traffic volumes are generally low except on the weekends and the first Wednesday of the each month when it is free admission day at the San Francisco Zoo.

Traffic: Intersection Level of Service (LOS)

Please see the discussion on p. V.A.3-3 of this EIR.

Transit

Muni bus line 23 runs along the entire portion of Project 8-5 on Sloat Boulevard; Muni bus line 18 operates along Sloat Boulevard between 47th Avenue and Skyline Boulevard. There are approximately eight buses per hour each way during the AM and PM peak periods. There are five westbound bus stops and four eastbound bus stops.

Parking

There is on-street parallel parking on the north and south sides of Sloat Boulevard as well as angled parking on the north side of the median. Curbside parking on the north side is relatively full, but the south side has lower occupancy. However, parking occupancy is usually higher during the summer weekends and on the first Wednesday of every month when the San Francisco Zoo offers free admission.

Pedestrian

Pedestrian volumes are generally low in the area, but also higher during the weekends and on the first Wednesday of each month when admission to the San Francisco Zoo is free.

Bicycle

Sloat Boulevard is designated as existing Bicycle Route 50 (Class III) in both directions between the Great Highway and Skyline Boulevard. Existing Bicycle Route 50 intersects existing Bicycle Route 95 (Class I/III) at the Great Highway and existing Bicycle Route 91 (Class III) at Skyline Boulevard. Street grades along Project 8-5 are relatively flat with gradients less than five

percent. Bicycle volumes are generally low in the area during the weekdays but typically higher on weekends and on the first Wednesday of each month when the San Francisco Zoo is free to visitors.

Loading

This segment of Sloat Boulevard is mostly residential with retail businesses and motels on the north side of the street. Loading activity is generally low and is accommodated by the available on-street and off-street parking spaces.

PROJECT IMPACTS AND MITIGATION

THRESHOLDS OF SIGNIFICANCE

The following are the thresholds of significance used by the San Francisco Planning Department for the determination of impacts associated with a proposed project:

Traffic

The threshold for a significant adverse impact on traffic has been established as the deterioration in the LOS at a signalized intersection from LOS D or better to LOS E or LOS F, or from LOS E to LOS F. The operational impacts on unsignalized intersections are considered potentially-significant if project-related traffic causes the LOS at the worst approach to deteriorate from LOS D or better to LOS E or LOS F and the California Department of Transportation (Caltrans) signal warrants would be met, or causes Caltrans signal warrants to be met when the worst approach is already at LOS E or LOS F.

For an intersection that operates at LOS E or LOS F under existing conditions, there may be a significant adverse impact depending upon the magnitude of the project's contribution to the worsening delay. This is measured by deterioration in the volume-to-capacity (V/C) ratio at the intersection. For an intersection operating at LOS E or LOS F, if the project results in the V/C ratio worsening by more than 10 percent of the V/C under no project conditions, a significant impact would occur. In addition, a project would have a significant adverse effect if it would cause major traffic hazards, or would contribute considerably to the cumulative traffic increases that would cause the deterioration in LOS to unacceptable levels (i.e., to LOS E or LOS F).

Parking

San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from

day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

Parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that would be triggered by a social impact (CEQA Guidelines Section 15131 (a)). The social inconvenience of parking deficits, such as having to hunt for scare parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service, walking, and bicycling would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically off-set by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor and the traffic assignments used in the transportation analysis, as well as in the associated air quality, noise, and pedestrian safety analyses, reasonably address potential secondary effects.

Transit

The project would have a significant effect on the environment if it would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service or cause a substantial increase in operating

costs or delays such that significant adverse impacts to transit service levels could result. The Bicycle Plan would not impact transit demand. Therefore, the focus of the transit impact analysis was on transit delay. The methodology for assessing transit delay is discussed below. A near-term improvement would have a significant impact on transit if one of the following is true: 1) For transit lines where the headway is greater than six minutes, the sum of the delay in both directions is equal to or greater than six minutes. 2) For transit lines where the headway is equal to or less than six minutes, the impact is significant if the sum of delay in both directions is equal to or greater than the headway of the affected transit line.

Pedestrian

The project would have a significant effect on the environment if it would result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility. Pedestrian volumes observed on sidewalks were compared to the 2000 Highway Capacity Manual[1] estimates for pedestrian counts to determine level of pedestrian activity.

Bicycle

The project would have a significant effect on the environment if it would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility.

Loading

The project would have a significant effect on the environment if it would result in a loading demand during the peak hour of loading activities that could not be accommodated within the proposed on-site loading facilities or within convenient on-street loading zones, or if it would create potentially hazardous traffic conditions or significant delays affecting traffic, transit, bicycles, or pedestrians.

Construction

Impacts due to the installation of the near-term improvements would likely be short in duration lasting from a few days to a few weeks. It is expected that these impacts would be similar between the 60 near-term improvements described in this report. Since impacts from construction would be temporary, impacts related to construction of the near-term improvements would be less than significant.

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[1] For details, refer to Pedestrian Walkway LOS (Exhibit 11-8), Chapter 11 – Pedestrian and Bicycle Concepts, 2000 Highway Capacity Manual.

PROJECT AND CUMULATIVE IMPACTS

CLUSTER 1: FINANCIAL DISTRICT/NORTH BEACH AREA[2]

This section provides a description of the Existing plus Project, 2025 Cumulative, and 2025 Cumulative plus Project transportation conditions within Cluster 1. Only one option is being proposed for each of the near-term improvements within Cluster 1.

Figures showing the turning movement traffic volumes and lane configurations at those study intersections for Existing conditions may be found within the transportation impact analysis discussion for Cluster 1 within the Transportation Impact Study. Level of service calculation sheets for those study intersections and transit delay calculation sheets for the affected transit routes may be found in the appendices of the Transportation Impact Study.[3]

PROJECT 1-1: BROADWAY BICYCLE LANES, POLK STREET TO WEBSTER STREET

Project 1-1 would add Class II bicycle lanes in both directions and a two-way center left-turn lane along Broadway between Van Ness Avenue and Webster Street. Project 1-1 would also remove one travel lane each way between Webster Street and Van Ness Avenue, add a two-way center left-turn lane from Franklin Street to approximately 280 feet eastward, and remove approximately 26 on-street parking spaces on the south side of Broadway between Franklin and Polk Streets. The proposal would change the existing westbound tow-away lane (4:00 p.m. to 6:00 p.m.) between Larkin and Van Ness Avenue to a tow-away Must Turn Right lane during the same period.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour period. Only one study intersection is included in Project 1-1 for the PM peak period.

Intersection 53: Van Ness Avenue/Broadway

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS D with 42.8 seconds of delay. Due to the narrowing of three travel lanes from 11 to 10 feet and the change in lane configuration, for

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2 Unless otherwise indicated, all intersection analysis is for PM Peak Hour conditions.

3 Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study.* This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File No 2007.0347E.

the westbound approach from two through lanes and a shared through-right turn lane to two through lanes and an exclusive right-turn lane the westbound delay would increase, which in turn would increase the average intersection delay by 0.5 seconds, compared to Existing conditions. Nonetheless, the intersection would operate satisfactorily at LOS D, with 43.3 seconds of average delay under Existing plus Project conditions. Therefore, the Project 1-1 would not cause a significant traffic impact to the Van Ness Avenue/Broadway intersection. Table V.1-3, p. V.A.3-193, summarizes these results.

TABLE V.1-3
CLUSTER 1 – PROJECT 1-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS
53.	Van Ness Avenue/Broadway	42.8	D	43.3	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Van Ness Avenue/Broadway intersection would operate satisfactorily at LOS D, with 45.9 seconds of delay under 2025 Cumulative conditions. Due to the narrowing of three lanes from 11 to 10 feet and the change in lane configuration for the westbound approach, the westbound delay would increase, in turn increasing the average intersection delay by 0.5 seconds to 46.4 seconds per vehicle under 2025 Cumulative plus Project conditions. Therefore Project 1-1 would not cause a significant impact to the Van Ness Avenue/Broadway intersection under 2025 Cumulative plus Project conditions. Table V.1-4, p. V.A.3-194, summarizes these results.

TRANSIT

Muni bus line 30X travels eastbound (inbound) one block between Van Ness Avenue and Polk Street, during the AM peak period, with approximately 12 buses per hour, and travels westbound (outbound) during the PM peak period, with approximately eight buses per hour. There are no bus stops on this segment of Broadway.

TABLE V.1-4
CLUSTER 1 – PROJECT 1-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS
53.	Van Ness Avenue/Broadway	45.9	D	46.4	D

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.

Existing and Existing plus Project Conditions

Under Existing plus Project conditions, the change of striping of westbound travel lanes between Van Ness Avenue and Polk Street would increase Muni bus delay in the PM peak hour by approximately two seconds per vehicle westbound with no additional delay in the eastbound direction. The headway for Muni bus line 30X in the PM peak period is eight minutes; the total added delay of two seconds resulting from Project 1-1 would be less than the transit delay threshold of six minutes. Therefore, there would be no significant impacts on transit capacity, operation, or travel time, or on the interactions between buses and bicyclists under Existing plus Project conditions for Project 1-1.

2025 Cumulative and 2025 Cumulative plus Project Conditions

Under 2025 Cumulative plus Project conditions, transit delay would be increased in the PM peak hour by approximately one second per vehicle westbound with no change in the eastbound direction. The headway for Muni bus line 30X in the PM peak period is eight minutes; the total added delay of one second resulting from Project 1-1 would be less than the transit delay threshold of six minutes. Therefore, there would be no significant impacts on transit capacity, operation, or travel time, as well as on the interactions between buses and bicyclists with Project 1-1 under 2025 Cumulative plus Project conditions for Project 1-1.

PARKING

There are approximately 190 existing on-street parking spaces on both sides of Broadway between Polk and Webster Streets. Project 1-1 would remove approximately 21 on-street parking spaces on the south side of Broadway between Franklin and Polk Streets. Eight of those parking spaces would be removed between Franklin Street and Van Ness Avenue, and 13

would be removed between Van Ness Avenue and Polk Street. Since existing parking occupancy along Broadway is generally high, the loss of 21 spaces in these two blocks would increase the occupancy rate in the area.

In San Francisco, parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact as under the CEQA but rather a social effect. The loss of parking may cause potential, indirect physical effects, which would include cars circling and looking for a parking space on neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts that may result from a shortfall in parking in the vicinity of Project 1-1 would be minor. The changes in on-street parking also would not cause any secondary physical impacts, such as traffic congestion, air quality impacts, or noise impacts caused by congestion. Therefore, there would be no significant parking impacts with implementation of Project 1-1.

PEDESTRIAN

Pedestrian volumes are generally low during the day except at the school locations during school arrival and dismissal. There would be no changes in sidewalk width or crosswalk layout, and the interactions between pedestrians and bicyclists would not change as a result of Project 1-1. Therefore, there would be no pedestrian impacts caused by Project 1-1.

BICYCLE

The proposed Class II bicycle lane would provide a clear right-of-way for bicyclists, but would be affected by substantial passenger unloading and loading during the school arrival and dismissal periods.

As a result of the removal of eight on-street parking spaces on the south side of Broadway between Franklin Street and Van Ness Avenue in front of Saint Brigid School, the student pick-up and drop-off activities would occur in the proposed bicycle lane and could raise a potential safety concern for bicyclists caused by the change in the bicycling environment, when eastbound bicyclist would be forced to merge with motor vehicles in the eastbound travel lane. Currently, bicyclists ride with general traffic; but with Project 1-1, eastbound bicyclists passing by Saint Brigid School during pick-up/drop-off hours would likely be forced to merge with general traffic to avoid cars stopped in the bicycle lane. Since this would not be substantially

different from existing conditions, there would be no significant bicycle impacts due to Project 1-1 at this location.

School children pick-up activities and vehicle queuing occurring on the north side of Broadway between Laguna and Webster Streets near the Hamlin and Convent of the Sacred Heart schools would also take place in the proposed bicycle lane due to the removal of one of the two westbound travel lanes. Westbound bicyclists would be required to pass to the left of vehicles waiting in front of Hamlin School and merge with the general traffic. Furthermore under these conditions, there would also be potential for bicycle/motor vehicle conflicts at the Webster Street intersection where Convent School vehicles would pull over to the passenger zone lane at the curb, cutting across the bicycle lane. However, because this would not be substantially different from existing conditions and westbound bicycle volumes during the peak school arrival and dismissal periods are low, there would be no significant bicycle impacts due to Project 1-1 at this location.

LOADING

The segment of Broadway west of Van Ness Avenue is mostly residential but also includes two schools. Between Van Ness Avenue and Polk Street, there are some commercial uses that rely on on-street parking spaces for loading. After the removal of on-street parking on the south side of Broadway between Polk and Franklin Streets, delivery vehicles would be forced to look for alternative spaces on Polk Street or Van Ness Avenue or, alternatively, to stop and load/unload in the bicycle lane.

The *San Francisco Transportation Code* Section 38N allows vehicles to temporarily block a bicycle lane during weekday midday, but not during the AM (7:00 a.m. to 9:00 a.m.) and PM (4:00 p.m. to 6:00 p.m.) peak periods. Thus, any delivery to be made during the AM and PM peak periods must seek a space one block away or along the perpendicular streets. Parked trucks using the bicycle lane for delivery during weekday midday would temporarily block the proposed bicycle lane and partially encroach onto the eastbound travel lane. Because truck loading demand in general is low in these two blocks and no double parking has been observed,[4] no significant commercial freight loading impacts would be expected from Project 1-1 at this location.

The removal of on-street parking between Franklin Street and Van Ness Avenue would affect school passenger loading in front of Saint Brigid School during school arrival and dismissal times. Double parking would likely occur for passenger loading, causing temporary traffic

[4] Field surveys were conducted by CHS Consulting on Tuesday, August 21, 2007 during the midday.

congestion. Similarly, the removal of one westbound travel lane on the north side of Broadway between Buchanan and Webster streets would affect passenger loading in front of the Hamlin School during school arrival and dismissal times. This would also likely lead to double parking and associated temporary congestion including potential traffic impacts affecting vehicles attempting to reach the Covenant of the Sacred Heart School one block to the west on the north Side of Broadway between Webster and Fillmore. Therefore, Project 1-1 would result in significant impacts to passenger loading under Existing plus Project and 2025 Cumulative plus Project conditions (Significant Impact TR-P1-1a, TR-P1-1b, TR-P1-1c, and TR-P1-1d).

Significant Impact TR-P1-1a:

As a result of the parking lane removal on the south side of Broadway between Franklin Street and Van Ness Avenue, school children loading activities in front of Saint Brigid School could continue to occur in the afternoon (before 4 p.m.), but passenger loading activities would have to be prohibited during the weekday AM peak period (7:00 a.m. to 9:00 a.m.) because of City of San Francisco Transportation Code Section 38N which prohibits blocking of a bicycle lane during peak periods. This prohibition would represent a significant impact on passenger loading on the south side of Broadway between Franklin Street and Van Ness Avenue for the students of Saint Brigid School under Existing plus Project conditions for the AM peak. Parking removal would not include changes to passenger loading during non-peak periods on weekdays or at any time on weekends.

Significant Impact TR-P1-1b:

Similar to that described above for Significant Impact TR-P1-1a, above, Project 1-1 would result in a significant impact to passenger loading on the south side of Broadway between Franklin Street and Van Ness Avenue for students of Saint Brigid School under 2025 Cumulative plus Project conditions.

Significant Impact TR-P1-1c:

As a result of the elimination of one westbound travel lane on the north side of Broadway between Buchanan and Webster Streets, school children loading activities in front of Hamlin School would also be prohibited during the weekday AM peak period. This prohibition would represent a significant impact on passenger loading for the students of Hamlin School under Existing plus Project conditions.

Significant Impact TR-P1-1d:

Similar to that described above for Significant Impact TR-P1-1c, above, Project 1-1 would result in a significant impact to passenger loading on the north side of Broadway between Buchanan and Webster Streets for the students of Hamlin School under 2025 Cumulative plus Project conditions.

PROJECT 1-2: BROADWAY TUNNEL SIGNAGE IMPROVEMENTS

Project 1-2 would add a blank-out advance warning sign in for eastbound traffic at Hyde Street that would be activated by a push-button and loop detector located at Larkin Street. Project 1-2 would also add a non-electronic warning sign advising westbound bicyclists use Broadway Street instead of the Broadway Tunnel, mid-block between Mason and Powell Streets. Sharrows would be painted in the tunnel in the eastbound direction and along the Broadway frontage road in the westbound direction.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus line 30X travels eastbound (inbound) on Broadway during the AM peak period, with approximately 12 buses per hour, and travels westbound (outbound) during the PM peak period, with approximately eight buses per hour. There are no Muni bus stops in this segment of Broadway. Currently, buses and bicyclists share the road and yield to each other.

The proposed flashing sign would warn drivers, including Muni drivers, and increase their awareness of bicycle travel within the tunnel; these changes would improve the current interactions between buses and bicyclists and would not impact transit capacity, operation, or travel time. Therefore, there would be no significant transit impacts with implementation of Project 1-2

PARKING

There is no parking allowed in the Broadway Tunnel; therefore, there would be no parking impacts resulting from Project 1-2.

PEDESTRIAN

Pedestrians walking in the Broadway Tunnel use the elevated sidewalks which are physically separated from vehicular and bicycle traffic. No changes to the sidewalks are proposed as part of the Project 1-2, therefore, there would be no pedestrian impacts resulting from Project 1-2.

BICYCLE

Bicyclists would benefit from the proposed signage and activation devices because activating the advance flashing warning signs would alert motorists about the presence of bicyclists sharing the road within the tunnel. The installation of sharrow would increase motor vehicle drivers' awareness that bicyclists may be on the road. Therefore, Project 1-2 would not result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

Loading activity is not permitted in the Broadway Tunnel; therefore, there would be no loading impacts as a result of Project 1-2.

PROJECT 1-3: NORTH POINT STREET BICYCLE LANES, THE EMBARCADERO TO VAN NESS AVENUE

Project 1-3 would add Class II bicycle lanes in both directions on North Point Street and would remove one westbound travel lane between Stockton Street and Van Ness Avenue plus one eastbound travel lane between Stockton Street and The Embarcadero. Project 1-3 would also extend the length of Muni and Golden Gate Transit (GGT) bus stops along North Point Street by removing approximately eight on-street parking spaces and would add approximately seven spaces by eliminating the Muni bus stops in both directions on North Point Street at Larkin Street.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour period. Four study intersections are included in Project 1-3 for the PM peak period. Tables V.1-5, p. V.A.3-200, and Table V.1-6, p. V.A.3-200 summarize the intersection levels of service and delay results for all the study intersections for both Existing plus Project and 2025 Cumulative plus Project conditions. For the purposes of this Project 1-3 discussion, please refer to Table 1-5 for Existing plus Project results and to Table 1-6 for Cumulative plus Project results.

TABLE V.1-5
CLUSTER 1 – PROJECT 1-3 INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS
45.	Van Ness Avenue/North Point Street	14.4	B	28.4	C
46.	Columbus Avenue/North Point Street	14.7	B	15.6	B
47.	The Embarcadero/North Point Street	26.0	C	27.1	C
51.	Polk Street/North Point Street	16.2	B	17.6	B

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.

TABLE V.1-6
CLUSTER 1 – PROJECT 1-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS[b]
45.	Van Ness Avenue/North Point Street	17.6	B	**57.6**	**E**
46.	Columbus Avenue/North Point Street	15.4	B	16.5	B
47.	The Embarcadero/North Point Street	30.1	C	32.4	C
51.	Polk Street/North Point Street	35.7	D	37.0	D

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Intersection 45: Van Ness Avenue/North Point Street

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS B with 14.4 seconds of delay. The westbound lane configuration at the intersection of Van Ness Avenue/North Point Street would be modified from an exclusive left-turn lane and a split left-right turn lane to one split left-right turn lane. Due to the removal of the exclusive left-turn lane, the westbound delay under Existing plus Project conditions would increase, increasing the average intersection delay by 14

seconds, compared to Existing conditions. The intersection would still operate satisfactorily at LOS D, with 28.4 seconds of overall delay under Existing plus Project conditions. Therefore, Project 1-3 would not cause a significant impact to the Van Ness Avenue/North Point Street intersection.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Van Ness Avenue/North Point Street intersection would operate unsatisfactorily at LOS E, with 57.6 seconds of delay under 2025 Cumulative plus Project conditions, compared to LOS B and 17.6 seconds of delay under 2025 Cumulative conditions. Because the westbound critical movements at Van Ness Avenue/North Point Street either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions a significant impact (Significant Impact TR-P1-3a) would occur at the Van Ness Avenue/North Point Street intersection with the implementation of Project 1-3.

Intersection 46: Columbus Avenue/North Point Street

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS B with 14.7 seconds of delay. The westbound lane configuration at the intersection of Columbus Avenue/North Point Street would be modified from a shared through-left turn lane and a shared through-right turn lane to a shared left-through-right turn lane. Due to the reduction of capacity in the westbound approach under Existing plus Project conditions, there would be a slight increase in delay. The average intersection delay would increase by 0.9 seconds, compared to Existing conditions but the intersection would continue to operate satisfactorily at LOS B, with 15.6 seconds of delay under Existing plus Project conditions. Therefore, Project 1-3 would not cause a significant traffic impact to the Columbus Avenue/North Point Street intersection.

2025 Cumulative and 2025 Cumulative plus Project Conditions

Under 2025 Cumulative plus Project conditions, the intersection delay at Columbus Avenue/North Point Street would increase by 1.1 seconds, compared to 2025 Cumulative conditions and would continue to operate satisfactorily at LOS B, with 16.5 seconds of delay under 2025 Cumulative plus Project condition. Therefore, Project 1-3 would not cause a significant impact to the Columbus Avenue/North Point Street intersection.

Intersection 47: The Embarcadero/North Point Street

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS C with 26 seconds of delay. The eastbound lane configuration at the intersection of The Embarcadero/North Point Street would be modified from an exclusive right-turn lane and a shared left-through-right turn lane to one shared left-through-right turn lane. Due to the proposed removal of the exclusive right-turn lane, the eastbound delay would increase under Existing plus Project conditions and the average intersection delay would in turn increase by 1.1 seconds, compared to Existing conditions. The intersection would continue to operate satisfactorily at LOS C, with 27.1 seconds of delay under Existing plus Project conditions. Therefore, Project 1-3 would not cause a significant impact to The Embarcadero/North Point Street intersection.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Embarcadero/North Point Street intersection delay under 2025 Cumulative plus Project conditions would increase by 2.3 seconds compared to 2025 Cumulative conditions. The intersection would continue to operate satisfactorily at LOS C with 32.4 seconds of delay under 2025 Cumulative plus Project conditions. Therefore, Project 1-3 would not cause a significant impact to The Embarcadero/North Point Street intersection.

Intersection 51: Polk Street/North Point Street

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS B with 16.2 seconds of delay. The westbound lane configuration at the intersection of Polk Street/North Point Street would be modified from a shared through-left turn lane and a shared through-right turn lane to a shared left-through-right turn lane. Under Existing plus Project conditions, with the reduction of capacity in the westbound approach, there would be an increase in delay. The overall intersection delay would increase by 1.4 seconds, compared to Existing conditions but the intersection would continue to operate satisfactorily at LOS B, with 17.6 seconds of delay under Existing plus Project conditions as shown in Table V.1-5, p. V.A.3-200. Thus, Project 1-3 would not cause a significant impact to the Polk Street/North Point Street intersection.

2025 Cumulative and 2025 Cumulative plus Project Conditions

Under 2025 Cumulative plus Project conditions, the overall delay at the intersection of Polk Street/North Point Street would increase by 1.3 seconds compared to 2025 Cumulative

conditions, and it would continue to operate satisfactorily at LOS D with 37 seconds of delay under 2025 Cumulative plus Project conditions as shown in Table V.1-6, p. V.A.3-200. Thus, Project 1-3 would not cause a significant impact to the Polk Street/North Point Street intersection.

Significant Impact TR-P1-3a:

The three-way controlled intersection at Van Ness Avenue/North Point Street would operate at LOS E under 2025 Cumulative plus Project conditions, compared to LOS B under 2025 Cumulative conditions.

TRANSIT

Nine Muni bus lines (9X, 9BX, 10, 19, 20, 30, 39, 47, and 91 owl) and 17 Golden Gate Transit (GGT) bus lines (2, 4, 8, 18, 24, 26, 27, 38, 44, 54, 56, 58, 60, 72, 73, 74, and 76) run on some portion of North Point Street within the limits of Project 1-3.

Project 1-3 includes the lengthening of three existing westbound bus stops on North Point Street: at Polk Street (from 60 feet to 100 feet), at Hyde Street (from 70 feet to 120 feet), and at The Embarcadero (from 75 feet to 80 feet). There would also be extension of three eastbound bus stops on North Point Street: at Hyde Street (from 85 feet to 120 feet), at Jones Street (from 80 feet to 100 feet), and at The Embarcadero (from 75 feet to 100 feet). Currently, because of high transit volumes, when several buses simultaneously arrive at the same bus stop, some are forced to protrude into the travel lane or the intersection due to lack of space. Extending the length of bus zones would allow more buses to be accommodated at the bus stops without obstructing the proposed bicycle lane and thus, minimize the potential conflicts with bicyclists and potentially reduce the dwell time for bus loading. Temporary localized conflicts between transit and double-parked trucks could increase because of the removal of a travel lane. However, the traffic analysis shows that there is adequate roadway capacity to handle these temporary conflicts without a significant impact to transit.

Existing and Existing plus Project Conditions

Under Existing plus Project conditions in the PM peak hour for the full length of Project 1-3, the removal of one travel lane on North Point Street between Van Ness Avenue and The Embarcadero would add approximately 55 seconds of delay per transit vehicle westbound and decrease delay by approximately 2 seconds per vehicle eastbound. For transit vehicles operating along some portion of North Point Street between The Embarcadero and Columbus Avenue, Project 1-3 would add approximately 20 seconds of delay per vehicle westbound with no

change in delay eastbound. For transit vehicles operating along some portion of North Point Street between Columbus and Van Ness Avenues, Project 1-3 would add approximately 36 seconds of delay per vehicle westbound with no change in delay eastbound.

Muni. For Muni bus lines 10 and 47 operating along all or a significant portion of Project 1-3, approximately 53 seconds of total delay per vehicle would be added in the PM peak hour. For Muni bus lines 9X and 9BX operating westbound on North Point Street between Kearny and Powell Streets, approximately 20 seconds of total delay per vehicle would be added. For Muni bus lines 20 and 30 operating only between Columbus and Van Ness Avenues, a total of 36 seconds of delay per vehicle would be added. No delay would be added to Muni bus lines 19 and 39 since they travel along North Point Street in the eastbound direction only. The headways for Muni bus lines operating on North Point Street in the PM peak period are greater than six minutes with the exception of Muni bus line 30 which is 4.5 minutes. The total added delay per vehicle for the Muni bus lines discussed above resulting from Project 1-3 would be less than the transit delay threshold of six minutes or the headway of Muni bus line 30.

GGT. For GGT bus lines (2, 4, 8, 18, 24, 26, 27, 38, 44, 54, 56, 58, 60, 72, 73, 74, and 76) operating on North Point Street in the westbound direction, approximately 53 seconds of total delay per vehicle would be added in the PM peak hour. The headways for these GGT bus line are 10 minutes or greater in the PM peak hour; the total added delay per vehicle for the GGT bus lines discussed above resulting from Project 1-3 would be less than the transit delay threshold of six minutes.

Since the total added delay for Muni and GGT bus lines operating on North Point Street in the PM peak hour would be less than the transit delay threshold of six minutes or, in the case of Muni bus line 30, the bus line headway and modifications to the bus stops would not negatively affect transit operations, a significant transit impact would not occur with implementation of Project 1-3 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions

Under 2025 Cumulative plus Project conditions in the PM peak hour for the full length of Project 1-3, the removal of one travel lane on North Point Street between Van Ness Avenue and The Embarcadero would add approximately 106 seconds (1.8 minutes) of delay per transit vehicle westbound and approximately 10 seconds of delay per vehicle eastbound. For transit vehicles operating along some portion of North Point Street between The Embarcadero and Columbus Avenue, Project 1-3 would add approximately 20 seconds of delay per vehicle westbound and 10 seconds of delay per vehicle eastbound. For transit vehicles operating along

some portion of North Point Street between Columbus and Van Ness Avenues, Project 1-3 would add approximately 80 seconds (1.3 minutes) of delay per vehicle westbound with no change in delay eastbound.

Muni. For Muni bus lines 10 and 47 operating along all or a significant portion of Project 1-3, approximately 96 seconds (1.6 minutes) of total delay per vehicle would be added in the PM peak hour. For Muni bus lines 9X and 9BX operating westbound on North Point Street between Kearny and Powell Streets, approximately 80 seconds (1.3 minutes) of total delay per vehicle would be added. For Muni bus lines 20 and 30 operating only between Columbus and Van Ness Avenues, a total of 30 seconds of delay per vehicle would be added. No delay would be added to Muni bus lines 19 and 39 since they travel along North Point Street in the eastbound direction only. The headways for Muni bus lines operating on North Point Street in the PM peak period are greater than six minutes with the exception of Muni bus line 30 which is 4.5 minutes. The total added delay per vehicle for the Muni bus lines discussed above resulting from Project 1-3 would be less than the transit delay threshold of six minutes or the headway of Muni bus line 30.

GGT. For GGT bus lines (2, 4, 8, 18, 24, 26, 27, 38, 44, 54, 56, 58, 60, 72, 73, 74, and 76) operating on North Point Street in the westbound direction, approximately 96 seconds (1.6 minutes) of total delay per vehicle would be added in the PM peak hour. The headways for these GGT bus line are 10 minutes or greater in the PM peak hour; the total added delay per vehicle for the GGT bus lines discussed above resulting from Project 1-3 would be less than the transit delay threshold of six minutes.

Since the total added delay for Muni and GGT bus lines operating on North Point Street in the PM peak hour would be less than the transit delay threshold of six minutes or, in the case of Muni bus line 30, the bus line headway and modifications to the bus stops would not negatively affect transit operations, a significant transit impact would not occur with implementation of Project 1-3 under 2025 Cumulative plus Project conditions.

PARKING

There are a total of approximately 252 existing on-street parking spaces on both sides of North Point Street between The Embarcadero and Van Ness Avenue. Due to the extension or removal of bus zones, Project 1-3 would require the removal of approximately six on-street parking spaces and add seven spaces west of Columbus Avenue and remove two parking spaces east of Columbus Avenue. This would result in a net loss of one parking space. Parking occupancy in the area is typically moderate to high, but this minor parking change would not substantially

increase the occupancy rates in the area. Therefore, no significant parking impacts would result from Project 1-3.

PEDESTRIAN

Pedestrian volumes are generally low to moderate in this corridor except near the Fisherman's Wharf area which experiences heavy pedestrian volumes. There would be no changes in sidewalk width, crosswalk layout or in the interaction between pedestrians and bicyclists as a result of Project 1-3. Therefore, there would be no pedestrian impacts as a result of Project 1-3.

BICYCLE

Current loading activity and double-parking along the mid-section of the North Point Street corridor would continue, and it is possible that double-parking could occur in the proposed Class II bicycle lane, partially blocking the adjacent travel lane. This activity would raise a potential safety concern for bicyclists because of the change in the bicycle environment and bicyclists riding in the bicycle lane would be forced to merge with general traffic to avoid a parked vehicle. In general, loading activity at this location typically takes place during the midday when bicycle volumes are generally low. In addition, the necessity for bicyclists to avoid double parked vehicles either in the bicycle lane or travel occurs under current conditions. Therefore, the interactions between loading vehicles and bicyclists would not change with implementation of Project 1-3; therefore, there would be no significant bicycle impacts. Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. Hence, Project 1-3 would not have a significant impact on cyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

Land uses along this segment of North Point Street vary between sections east and west of Columbus Avenue. East of Columbus Avenue, there are several hotels, the North Point Shopping Center, and active commercial uses in the mid-section. Loading demand in this section of North Point Street is heavier than the west side and occasional double parking has been observed.[5] The east side has mostly residential uses, except the section near Larkin Street where there are small-scale commercial uses. Because there is heavy loading activity and frequent double-parking along the mid-section of this corridor, the removal of one westbound travel lane with Project 1-3 could potentially increase the impact of this double-parking on

[5] Field surveys were conducted by CHS Consulting on Tuesday, August 21, 2007 during the midday.

bicyclists and general traffic because the proposed bicycle lane and/or the single travel lane would be obstructed. Double parking along the single travel lane could potentially result in a safety issue because in order to bypass double-parked trucks, vehicles would have to use the opposing lane which could lead to conflicts with oncoming vehicles. No designated yellow commercial freight loading spaces would be removed as part of Project 1-3. However, as a result of Project 1-3, there may be safety issues resulting from vehicles crossing into the opposing travel lane to navigate around double-parked vehicles. Therefore, there would be a significant loading impact (Significant Impact TR-P1-3b and TR-P1-3c) caused by Project 1-3.

Significant Impact TR-P1-3b:

Due to double-parked vehicles and the removal of general travel lanes, a significant loading impact would occur along North Point Street east of Columbus Avenue as a result of Project 1-3 under Existing plus Project conditions.

Significant Impact TR-P1-3c:

Due to double-parked vehicles and the removal of general travel lanes, a significant loading impact would occur along North Point Street, on the east side of the street, near Larkin Street as a result of Project 1-3 under 2025 Cumulative plus Project conditions.

CLUSTER 1: SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impact TR-P1-1a:

As a result of the parking lane removal on the south side of Broadway between Franklin Street and Van Ness Avenue, school children loading activities in front of Saint Brigid School could continue to occur in the afternoon (before 4:00 p.m.), but passenger loading activities would have to be prohibited during the weekday AM peak period (7:00 a.m. to 9:00 a.m.) because of City of San Francisco Transportation Code Section 38N which prohibits blocking of a bicycle lane during peak periods. This prohibition would represent a significant impact on passenger loading on the south side of Broadway between Franklin Street and Van Ness Avenue for the students of Saint Brigid School under Existing plus Project conditions for the AM peak. Parking removal would not include changes to passenger loading during non-peak periods on weekdays or at any time on weekends.

M-TR-P1-1a:

An alternative school passenger drop-off location would have to be identified to accommodate passenger loading demand, such as expanding the existing passenger drop-off location along

the east side of Franklin Street between Pacific Avenue and Broadway on the west side of the school building. Alternatively, the passenger drop off zone on Broadway could be maintained by eliminating the proposed eastbound bicycle lane between Franklin Street and Van Ness Avenue and having bicyclists share the curb lane with motor vehicles, similar to existing conditions. With the implementation of either of these mitigation measures, the significant impact on loading for the students of Saint Brigid School would be reduced to less than significant under Existing plus Project conditions for Project 1-1.

Significant Impact TR-P1-1b:

Similar to that described above for Significant Impact TR-P1-1a, above, Project 1-1 would result in a significant impact to passenger loading on the south side of Broadway between Franklin Street and Van Ness Avenue for students of Saint Brigid School under 2025 Cumulative plus Project conditions.

M-TR-P1-1b:

Refer to Mitigation Measure 1-1a, above for mitigation of this impact. With the implementation of either of these mitigation measures, the significant impact on loading for the students of Saint Brigid School would be reduced to less than significant under 2025 Cumulative plus Project conditions for Project 1-1.

Significant Impact TR-P1-1c:

As a result of the elimination of one westbound travel lane on the north side of Broadway between Buchanan and Webster Streets, school children loading activities in front of Hamlin School would also be prohibited during the weekday AM peak period. This prohibition would represent a significant impact on passenger loading for the students of Hamlin School under Existing plus Project conditions.

M-TR-P1-1c:

Extend the existing passenger loading zone on the north side of Broadway near Webster Street towards the east, all the way to Buchanan Street. The passenger zone extension would be located to the right of the proposed bicycle lane and would be operational during school arrival and dismissal periods only (typically from 7:00 a.m. to 8:30 a.m. and from 2:00 p.m. to 3:30 p.m.). This mitigation would reduce or eliminate incidents of double parking related to passenger loading and alleviate any associated congestion. With the implementation of this mitigation measure, the significant impact regarding loading for the students of Hamlin School would be reduced to less than significant under Existing plus Project conditions for Project 1-1.

Significant Impact TR-P1-1d:

Similar to that described above for Significant Impact M-TR-P1-1c, above, Project 1-1 would result in a significant impact to passenger loading on the north side of Broadway between Buchanan and Webster Streets for the students of Hamlin School under 2025 Cumulative plus Project conditions.

M-TR-P1-1d:

Refer to Mitigation Measure M-TR-P1-1c, above, for mitigation of this impact. With the implementation of this mitigation measure, the significant impact on loading for the students of Hamlin School would be reduced to less than significant under 2025 Cumulative plus Project conditions for Project 1-1.

Significant Impact TR-P1-3a:

The three-way controlled intersection at Van Ness Avenue/North Point Street would operate at LOS E under 2025 Cumulative plus Project conditions, compared to LOS B under 2025 Cumulative conditions.

M-TR-P1-3a:

Per the California *Manual on Uniform Traffic Control Devices* (MUTCD), a signal warrant analysis was conducted to determine the feasibility of signalization of the Van Ness/North Point Street intersection. The criteria for signal warrants were satisfied.[6] Therefore, signalization of this intersection was proposed as the mitigation measure.

The intersection shall be converted from a three-way stop-controlled (FWSC) intersection to a signalized intersection (with the application of 90 seconds of cycle length) to improve intersection operations. With this improvement, the intersection operation would improve to LOS B, with 19 seconds of delay and a V/C ratio of 0.65. The intersection operations would improve from LOS E to LOS B for 2025 Cumulative plus Project conditions. Minimum green times required for pedestrians to cross the intersection would be maintained to the signal. Hence, this mitigation measure would reduce impacts of Project 1-3 to a less-than-significant level. Table V.1-7, p. V.A.3-210, summarizes the LOS results after this mitigation measure is applied.

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[6] Wilbur Smith Associates. 2008. The result may be found in the Appendices for the TIS. A copy of this report may be viewed by appointment at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File 2007.0347E.

TABLE V.1-7
CLUSTER 1 – PROJECT 1-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project		2025 Cumulative plus Project with Mitigation Measures	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS
45.	Van Ness Avenue/North Point Street	57.6	E	19	B

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P1-3b:

Due to double-parked vehicles and the removal of general travel lanes, a significant loading impact would occur along North Point Street east of Columbus Avenue as a result of Project 1-3 under Existing plus Project conditions.

M-TR-P1-3b:

No feasible mitigation measures have been identified to mitigate this loading impact. Therefore, a significant loading impact would occur along North Point Street east of Columbus Avenue, with implementation of Project 1-3 under Existing plus Project conditions.

Significant Impact TR-P1-3c:

Due to double-parked vehicles and the removal of general travel lanes, a significant loading impact would occur along North Point Street, east of Columbus Avenue as a result of Project 1-3 under 2025 Cumulative plus Project conditions.

M-TR-P1-3c:

No feasible mitigation measures have been identified to mitigate this loading impact. Therefore, a significant loading impact would occur along North Point Street, east of Columbus Avenue with implementation of Project 1-3 under 2025 Cumulative plus Project conditions.

CLUSTER 2: SOUTH OF MARKET AREA[7]

This section provides a description of the Existing plus Project and 2025 Cumulative and 2025 Cumulative plus Project transportation conditions for the near-term improvements in Cluster 2. Projects 2-3 (partially), 2-12, and 2-13 (partially) were implemented prior to the Bicycle Plan injunction. Seven of the near-term improvements include two design options; for the remaining nine projects, only one design option is proposed.

Figures showing the turning movement traffic volumes and lane configurations at the study intersections in Cluster 2 for Existing plus Project, 2025 Cumulative, and 2025 Cumulative plus Project conditions may be found within the transportation impact analysis discussion for Cluster 2 within the Transportation Impact Study. Level of service calculation sheets for those intersections and transit delay calculation sheets for affected transit routes may be found in the appendices of the Transportation Impact Study.[8]

PROJECT 2-1: 2ND STREET BICYCLE LANES, KING STREET TO MARKET STREET

Project 2-1 would involve the installation of Class II and Class III bicycle facilities in both directions on 2nd Street between King and Market Streets. Project 2-1 includes two design options.

Both Options 1 and 2 would add a Class II bicycle lane in both directions between King and Market Streets, except the following three sections where sharrows would be added instead:

- Northbound approach to Market Street,
- The section between Harrison and Bryant Streets in the northbound direction, and
- The southbound approach to King Street

Option 1 would remove one southbound travel lane between Market and Mission Streets, one travel lane in both directions between Mission and Harrison Streets, and one northbound travel lane between Harrison and Townsend Streets. Additional left turn and right pockets would be added at various intersections in both northbound and southbound directions.

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7 Unless otherwise indicated, all intersection analysis is for PM Peak Hour conditions.

8 Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study.* This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File No 2007.0347E.

Option 2 would remove one southbound travel lane between Market and Mission Streets, one travel lane in both directions between Mission and Harrison Streets, and one southbound travel lane between Harrison and Townsend Streets. Additional left turn and right-turn pockets would be added at various intersections in both northbound and southbound directions.

Option 1 would also remove approximately 97 on-street parking spaces and Option 2 would remove approximately 88 on-street parking spaces between Market and King Streets.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour.

Six study intersections are included for the PM Peak Hour for Project 2-1. Table V.2-13, p. V.A.2-212, and Table V.2-14, p. V.A.2-213, summarize these results under Existing plus Project and 2025 Cumulative plus Project conditions respectively.

TABLE V.2-13
CLUSTER 2 – PROJECT 2-1 [c]
INTERSECTION LEVEL OF SERVICE AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
1.	2nd Street/Bryant Street	**60.3**	**E**	**>80**	**F**	51.4	D
2.	2nd Street/Harrison Street	**64.9**	**E**	**>80**	**F**	**>80**	**F**
3.	2nd Street/Folsom Street	44.7	D	**76.5**	**E**	**76.5**	**E**
4.	2nd Street/Howard Street	20.1	C	22.4	C	22.4	C
5.	2nd Street/Brannan Street	14.1	B	15	B	17.9	B
6.	2nd Street/Townsend Street [c]	13.8	B	20	C	20	C

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for combined impacts for Projects 2-1 and 2-16.

TABLE V.2-14
CLUSTER 2 – PROJECT 2-1[c]
INTERSECTION LEVEL OF SERVICE AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
1.	2nd Street/Bryant Street	>80	F	>80	F	>80	F
2.	2nd Street/Harrison Street	>80	F	>80	F	>80	F
3.	2nd Street/Folsom Street	>80	F	>80	F	>80	F
4.	2nd Street/Howard Street	>80	F	>80	F	>80	F
5.	2nd Street/Brannan Street	16.1	B	19.2	B	52.4	D
6.	2nd Street/Townsend Street[c]	15.8	B	**55.1**	**E**	**55.1**	**E**

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for impacts of combined Projects 2-1 and 2-16.

Intersection 1: 2nd Street/Bryant Street

- **Option 1**

Existing and Existing plus Project Conditions

Under Existing conditions for the PM peak hour this intersection operates at LOS E. However, under Existing plus Project conditions the 2nd Street/Bryant Street intersection would operate unsatisfactorily at LOS F with more than 80 seconds of delay. The northbound lane configuration would be modified from two through lanes and one exclusive right-turn lane to one through lane and one shared through-right lane. Due to this reduction in capacity, there would be an increase in delay along this approach. Because the northbound critical movements at 2nd Street/Bryant Street either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions a significant impact (Significant Impact TR-P2-1a) would occur at the 2nd Street/Bryant Street intersection with the implementation of Project 2-1 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 2nd Street/Bryant Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions under the PM peak hour. The 2nd Street/Bryant Street intersection would operate unsatisfactorily at

LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. The northbound critical movement at 2nd Street and Bryant Street would deteriorate to LOS F under Existing plus Project conditions, relative to Existing Conditions. This is deemed a significant impact. As a consequence, a corresponding LOS deterioration is expected at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-1b) would occur at the 2nd Street/Bryant Street intersection for the PM Peak hour with implementation of Project 2-1 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions

Under Existing conditions, for the PM peak hour, this intersection operates at LOS E. However, under Existing plus Project conditions, the study intersection would operate satisfactorily at LOS D, with 51.4 seconds of delay. The northbound lane configuration would be modified from two through lanes and an exclusive right-turn lane to two through lanes and one shared through-right lane. Due to the additional capacity provided in the northbound direction, traffic operations along the northbound critical movement would improve. Therefore LOS at this intersection would also improve. Since the intersection operates at an acceptable level of service under Existing plus Project conditions, no significant impacts would occur at the 2nd Street/Bryant Street intersection with the implementation of Project 2-1 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 2nd Street/Bryant Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions under the PM peak hour. The 2nd Street/Bryant Street intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Due to the additional capacity provided in the northbound direction, traffic operations along the northbound critical movement would improve resulting in an improvement in the LOS at this intersection. Therefore, there would be no significant impacts to the 2nd Street/Bryant Street intersection for the PM peak hour as a result of Project 2-1 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 2: 2nd Street/Harrison Street

- **Option 1**

Existing and Existing plus Project Conditions

Under Existing conditions, for the PM peak hour, this intersection operates at LOS E. However, under Existing plus Project conditions, the 2nd Street/Harrison Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. The southbound lane configuration would be modified from one shared through-

left lane and one shared through-right lane under Existing conditions to one exclusive left lane, one through lane, and one exclusive right lane under Existing plus Project conditions. The northbound lane configuration would be modified from a shared through-left, shared through-right and an exclusive right-turn lane to an exclusive left-turn, a shared through-right and an exclusive right-turn lane. Due to the modification of lane geometries, there would be an increase in delay along these approaches. Because the northbound critical movements at 2nd Street/Harrison Street would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P2-1c) would occur at the 2nd Street/Harrison Street intersection with the implementation of Project 2-1 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 2nd Street/Harrison Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions under the PM peak hour. The 2nd Street/Harrison Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. The northbound critical movement at 2nd Street and Harrison Street would deteriorate to an LOS F under Existing plus Project conditions relative to Existing Conditions. This is deemed a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-1e) would occur at the 2nd Street/Harrison Street intersection for the PM peak hour with implementation of Project 2-1 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions

Under Existing conditions, for the PM peak hour, this intersection operates at LOS E. However, under Existing plus Project conditions, the 2nd Street/Harrison Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions. The southbound lane configuration would be modified from one shared through-left lane and one shared through-right lane under Existing conditions to one exclusive left lane, one through lane, and one exclusive right lane under Existing plus Project conditions. The northbound lane configuration would be modified from a shared through left, shared through-right and an exclusive right-turn lane to an exclusive left-turn, a shared through-right and an exclusive right-turn lane. Due to the modification of lane geometries, there would be an increase in delay along the southbound approach for Option 2. Because the northbound critical movement at 2nd Street/Harrison Street Because the northbound critical movements at 2nd Street/Harrison Street would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project

conditions, a significant impact (Significant Impact TR-P2-1d) would occur at the 2nd Street/Harrison intersection with the implementation of Project 2-1 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 2nd Street/Harrison Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions under the PM peak hour. The northbound critical movement at 2nd Street and Harrison Street would deteriorate to an Existing plus Project LOS F, relative to Existing Conditions. This is determined to be a significant impact. As a consequence a corresponding LOS deterioration is expected at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-1f) would occur at the 2nd Street/Harrison Street intersection for the PM peak hour with implementation of Project 2-1 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 3: 2nd Street/Folsom Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS D with a delay of 44.7 seconds. However, under Existing plus Project conditions, the 2nd Street/Folsom Street intersection would operate unsatisfactorily at LOS E, with 76.5 seconds of delay. The southbound lane configuration would be modified from one through lane and one shared through-left turn lane to one through lane and one exclusive left-turn lane. In addition, the northbound lane would be modified from one through lane and on shared through-right lane to one shared through-right lane. Due to the modification of lane geometries in the southbound direction and the reduction in capacity in the northbound direction, there would be an increase in delay along both the southbound and northbound approach. Because the southbound and eastbound critical movements at 2nd Street/Folsom Street would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P2-1g) would occur at the 2nd Street/Folsom Street intersection with the implementation of Project 2-1 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 2nd Street/Folsom Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions for the PM peak hour. The southbound and eastbound critical movement at 2nd Street and Folsom Street would deteriorate to an Existing plus Project LOS E, relative to Existing conditions. This is determined to be a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-1i) would occur at the 2nd Street/Folsom Street

intersection with implementation of Project 2-1 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS D with a delay of 44.7 seconds. However, under Existing plus Project conditions, the 2nd Street/Folsom Street intersection would operate unsatisfactorily at LOS E, with 76.5 seconds of delay. The southbound lane configuration would be modified from one through lane and one shared through-left turn lane to one through lane and one exclusive left-turn lane. In addition, the northbound lane would be modified from one through lane and one shared through-right lane to one shared through-right lane. Due to the modification of lane geometries in the southbound direction and the reduction in capacity in the northbound direction, there would be an increase in delay along both the southbound and northbound approaches. Because the southbound and eastbound critical movements at 2nd Street/Folsom Street would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P2-1h) would occur at the 2nd Street/Folsom Street intersection with the implementation of Project 2-1 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 2nd Street/Folsom Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions for the PM peak hour. The northbound critical movement at 2nd Street and Harrison Street would deteriorate to an Existing plus Project LOS F relative to Existing conditions. This is deemed a significant impact. As a consequence a corresponding LOS deterioration is expected at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-1j) would occur at the 2nd Street/Folsom Street intersection with implementation of Project 2-1 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 4: 2nd Street/Howard Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS C with a delay of 20.1 seconds. Under Existing plus Project conditions, this intersection would continue to operate satisfactorily at LOS C, with 22.4 seconds of delay. The southbound lane configuration would be modified from one through lane and shared through-right turn lane to one through lane and one exclusive right-turn lane. In addition, the northbound lane configuration would be modified from one through lane

and one shared through-left turn lane to one through lane and one exclusive left-turn lane. Due to the modification of lane geometries in the southbound and northbound directions, there would be an increase in delay along both approaches under Existing plus Project conditions. The intersection delay would increase by 2.3 seconds compared to Existing conditions. Therefore, a significant impact would not occur at the 2nd Street/Howard intersection with the implementation of Project 2-1 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 2nd Street/Howard Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions for the PM peak hour. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Because the northbound and westbound critical movements at 2nd Street and Howard Street would either deteriorate, or would operate at an unacceptable LOS F with more than 80 seconds of average delay under Year 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P2-1k) would occur at the 2nd Street/Howard Street intersection with the implementation of Project 2-1 Option 1.

- **Option 2**

Existing and Existing plus Project Conditions

Under Existing conditions, for the PM peak hour, this intersection operates at LOS C with a delay of 20.1 seconds. Since the proposed lane configuration under Option 2 is the same as Option 1, the 2nd Street/Howard Street intersection would also operate satisfactorily at LOS C, with 22.4 seconds of delay under Existing plus Project conditions for Option 2. The southbound lane configuration would be modified from one through lane and shared through-right turn lane to one through lane and one exclusive right-turn lane. In addition, the northbound lane configuration would be modified from one through lane and one shared through-left turn lane to one through lane and one exclusive left-turn lane. Due to the modification of lane geometries in the southbound and northbound directions, there would be an increase in delay along both approaches. The intersection delay would increase by 2.3 seconds compared to Existing conditions. Therefore, a significant impact would not occur at the 2nd Street/Howard intersection with the implementation of Project 2-1 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 2nd Street/Howard Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. The northbound and westbound critical movements at 2nd Street and Howard Street would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions. Therefore, a significant impact (Significant Impact TR-P2-1l) would occur at the 2nd Street/Howard Street intersection with the implementation of Project 2-1 Option 2.

Intersection 5: 2nd Street/Brannan Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS B with a delay of 14.1 seconds. The 2nd Street/Brannan Street intersection would operate satisfactorily at LOS B, with 15 seconds of delay under Existing plus Project conditions. The northbound lane configuration would be modified from one shared through-left lane and one shared through-right lane to one shared left-through-right lane. Due to the reduction in capacity, there would be an increase in delay along the northbound approach. The intersection would increase by 0.9 second compared to Existing conditions. Therefore, a significant impact would not occur at the 2nd Street/Brannan Street intersection with the implementation of Project 2-1 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 2nd Street/Brannan Street intersection would operate satisfactorily at LOS B, with 16.1 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate satisfactorily at LOS B, with 19.2 seconds of delay. Therefore, a significant impact would not occur at the Street/Brannan Street intersection with the implementation of Project 2-1 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS B with a delay of 14.1 seconds. The 2nd Street/Brannan Street intersection would operate satisfactorily at LOS B, with 17.9 seconds of delay under Existing plus Project conditions. The southbound lane configuration would be modified from one shared through-left lane and one shared through-right lane to one shared left-through-right lane. Due to the reduction in capacity, there would be an increase in delay along the southbound approach. The intersection delay would increase by 3.8 seconds compared to Existing conditions. Therefore, a significant impact would not occur at the 2nd Street/Brannan Street intersection with the implementation of Project 2-1 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 2nd Street/Brannan Street intersection would operate satisfactorily at LOS B, with 16.1 seconds of average delay under 2025 Cumulative conditions. The 2nd Street/Brannan Street intersection would operate satisfactorily at LOS D, with 52.4 seconds of delay under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at the 2nd Street/Brannan Street intersection with the implementation of Project 2-1 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 6: 2nd Street/Townsend Street (Projects 2-1 and 2-16 Combined)

The 2nd Street/Townsend Street intersection is common to Projects 2-1 and 2-16 within the Cluster 2 area. For Project 2-1, the lane configuration at the intersection remains the same as under Existing (No Project) conditions for both Option 1 and Option 2. However, Project 2-16 reduces the capacity in the eastbound direction on Townsend Street for this intersection. Under Project 2-16, both Options 1 and 2 would modify the eastbound shared through-left and shared through-right lane to a single shared through-left-right turn lane. The analysis below reflects the combined impact of implementing Projects 2-1 and 2-16 at this intersection. The impacts resulting from the implementation of individual Project 2-1 follow the discussion of the combined impacts. Table V.2-15, p. V.A.3- 220, and Table V.2-16, p. V.A.3-221, summarize these results.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 2-1 and 2-16 combined
  Under Existing conditions, for the PM peak hour, this intersection operates at LOS B with 13.8 seconds of delay. The 2nd Street/Townsend Street intersection would operate satisfactorily at LOS C, with 20 seconds of delay under Existing plus Project conditions. The eastbound lane configuration would be modified from one shared through-left lane and one shared through-right lane to one shared left-through-right lane. Due to the reduction in capacity, there would be an increase in delay along the eastbound

TABLE V.2-15
CLUSTER 2
COMPARISON OF LEVEL OF SERVICE AND AVERAGE DELAY FOR 2ND STREET/TOWNSEND STREET EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

Existing		Existing plus Project Option 1				Existing plus Project Option 2			
		Project 2-1		Combined Projects 2-1 and 2-16		Project 2-1		Combined Projects 2-1 and 2-16	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
13.8	B	13.8	B	20	C	13.8	B	20	C

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-16
CLUSTER 2 – PROJECTS 2-1 AND 2-16
COMPARISON OF LEVEL OF SERVICE AND AVERAGE DELAY FOR 2ND STREET/TOWNSEND STREET 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 2-1		Combined Projects 2-1 and 2-16		Project 2-1		Combined Projects 2-1 and 2-16	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
15.8	B	15.8	B	**55.1**	**E**	15.8	B	**55.1**	**E**

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

approach. The intersection delay would increase by 6.2 seconds, compared to Existing conditions. Therefore, a significant impact would not occur at the 2nd Street/Townsend Street intersection with the implementation of combined Project 2-1 and Project 2-16 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-1 and 2-16 combined

The 2nd Street/Townsend Street intersection would operate satisfactorily at LOS B, with 15.8 seconds of average delay under 2025 Cumulative conditions for the PM peak hour. The 2nd Street/Townsend Street intersection would operate unsatisfactorily at LOS E, with 55.1 seconds of delay under 2025 Cumulative plus Project conditions. Because the southbound and eastbound critical movements at 2nd Street/Townsend Street would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P2-1m) would occur at the 2nd Street/Townsend Street intersection with the implementation of combined Project 2-1 and 2-16 Option 1. Table V.2-16, p. V.A.3-221, shows a comparison between LOS and average delay for this intersection under 2025 Cumulative and 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 2-1 and 2-16 combined

Under Existing conditions, for the PM peak hour, this intersection operates at LOS B with 13.8 seconds of delay. Since the proposed lane configuration under Option 2 is the same as Option 1, the 2nd Street/Townsend Street intersection would also operate satisfactorily at LOS C, with 20 seconds of delay under Existing plus Project conditions

for Option 2. The eastbound lane configuration would be modified from one shared through-left lane and one shared through-right lane to one shared left-through-right lane. Due to the reduction in capacity, there would be an increase in delay along the eastbound approach. The intersection would increase by 6.2 seconds, compared to Existing conditions. Therefore, a significant impact would not occur at this intersection with the implementation of Option 2 of Project 2-1 and Project 2-16 combined. Table V.2-13, p. V.A.3-212, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-1 and 2-16 combined

The 2nd Street/Townsend Street intersection would operate satisfactorily at LOS B, with 15.8 seconds of average delay under 2025 Cumulative conditions for the PM peak hour. Since the proposed lane configuration under Option 2 is the same as Option 1, the 2nd Street/Townsend Street intersection would operate unsatisfactorily at LOS E, with 55.1 seconds of delay under 2025 Cumulative plus Project conditions for Option 2. Because the southbound and eastbound critical movements at 2nd Street/Townsend Street would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P2-1n) would occur at the 2nd Street/Townsend Street intersection with the implementation of Option 2 of Project 2-1 and 2-16 combined. Table V.2-14, p. V.A.3-213, summarizes these results. Table V.2-14 shows a comparison between LOS and average delay for this intersection under 2025 Cumulative and 2025 Cumulative plus Project conditions.

Intersection 6: 2nd Street/Townsend Street (Project 2-1)

- **Option 1**

Existing and Existing plus Project Conditions

Under Existing conditions, for the PM peak hour, this intersection operates at LOS B with 13.8 seconds of delay. The 2nd Street/Townsend Street intersection would operate satisfactorily at LOS C, with 20 seconds of delay under Existing plus Project conditions. No lane configuration changes are proposed under Project 2-1 for this intersection. Hence, there would be no change to the LOS or delay. Therefore, a significant impact would not occur at the 2nd Street/Townsend Street intersection with the implementation of Project 2-1 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions

Under 2025 Cumulative conditions, for the PM peak hour, this intersection operates at LOS B with 15.8 seconds of delay. The 2nd Street/Townsend Street intersection would continue to operate satisfactorily at LOS B, with 15.8 seconds of delay under 2025 Cumulative plus Project conditions. No lane configuration changes are proposed under Project 2-1 for this intersection. Hence, there would be no change to the LOS or delay. Therefore, a significant impact would not occur at the 2nd Street/Townsend Street

intersection with the implementation of Project 2-1 Option 1 under 2025 Cumulative and 2025 Cumulative plus Project conditions. Table V.2-14, p. V.A.3-213, shows a comparison between LOS and average delay for the 2nd Street/Townsend Street intersection under 2025 Cumulative and 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS B with 13.8 seconds of delay. The 2nd Street/Townsend Street intersection would operate satisfactorily at LOS C with 20 seconds of delay under Existing plus Project conditions. No lane configuration changes are proposed under Project 2-1 for this intersection. Hence, there would be no change to the LOS or delay. Therefore, a significant impact would not occur at the 2nd Street/Townsend Street intersection with the implementation of Project 2-1 Option 2. Table V.2-13, p. V.A.3-212, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions
Under 2025 Cumulative conditions for the PM peak hour this intersection operates at LOS B with 15.8 seconds of delay. The 2nd Street/Townsend Street intersection would continue to operate satisfactorily at LOS B with 15.8 seconds of delay under 2025 Cumulative plus Project conditions. No lane configuration changes are proposed under Project 2-1 Option 2 for this intersection. Hence, there would be no change to the LOS or delay. Therefore, a significant impact would not occur at the 2nd Street/Townsend Street intersection with the implementation of Project 2-1 Option 2. Table V.2-14, p. V.A.3-213, shows a comparison between LOS and average delay for this intersection under 2025 Cumulative and 2025 Cumulative plus Project conditions.

Significant Impact TR-P2-1a:

The intersection of 2nd Street/Bryant Street would operate at LOS F under Existing plus Project conditions for Project 2-1 Option 1.

Significant Impact TR-P2-1b:

The intersection of 2nd Street/Bryant Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 1.

Significant Impact TR-P2-1c:

The intersection of 2nd Street/Harrison Street would operate at LOS F under Existing plus Project conditions for Project 2-1 Option 1.

Significant Impact TR-P2-1e:

The intersection of 2nd Street/Harrison Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

Significant Impact TR-P2-1d:

The intersection of 2nd Street/Harrison Street would operate at LOS F under Existing plus Project conditions for Project 2-1 Option 2.

Significant Impact TR-P2-1f:

The intersection of 2nd Street/Harrison Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 2.

Significant Impact TR-P2-1g:

The intersection of 2nd Street/Folsom Street would operate at LOS E under Existing plus Project conditions for Project 2-1 Option 1.

Significant Impact TR-P2-1h:

The intersection of 2nd Street/Folsom Street would operate at LOS E under Existing plus Project conditions for Project 2-1 Option 2.

Significant Impact TR-P2-1i:

The intersection of 2nd Street/Folsom Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 1.

Significant Impact TR-P2-1j:

The intersection of 2nd Street/Folsom Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 2.

Significant Impact TR-P2-1k:

The intersection of 2nd Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 1.

Significant Impact TR-P2-1l:

The intersection of 2nd Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 2.

Significant Impact TR-P2-1m (Projects 2-1 and 2-16 combined):

The intersection of 2nd Street/Townsend Street would operate at LOS E under 2025 Cumulative plus Project conditions for combined Projects 2-1 and 2-16 Option 1.

Significant Impact TR-P2-1n (Projects 2-1 and 2-16 combined):

The intersection of 2nd Street/Townsend Street would operate at LOS E under 2025 Cumulative plus Project conditions for Option 2 of the combined Projects 2-1 and 2-16.

TRANSIT

Muni bus lines 9, 10, 71, and 108 run southbound along 2nd Street between Market and Mission Streets, with approximately 24 buses per hour during the AM and PM peak periods. Muni bus lines 10 and 108 also run in both directions along 2nd Street between Howard and Townsend Streets, with approximately 10 buses per hour southbound and six buses northbound during the AM and PM peak periods. The frequency for Muni bus lines 10 and 108 total 10 buses per hour each way, namely, 6 buses for Muni bus line 10 southbound and 4 buses for bus line 108 southbound, and 6 buses for Muni bus line 10 northbound and 4 buses for Muni bus line 108 northbound.

Current Muni bus volumes along 2nd Street between Market and Mission Streets are moderate and bicycle volumes on this block are generally low to moderate. There is one bus stop in this block located on the west side of 2nd Street between Market and Stevenson Streets. There is very little interaction between buses and bicyclists at this stop. Bus volumes between Howard and Townsend Streets are light (four buses per hour each way) and bicycle volumes are light to moderate. Therefore, there is very little interaction between buses and bicyclists at the present time.

The existing northbound bus stop on the far side of Harrison Street would be reduced to a 7-foot wide bus stop adjacent to a 10-foot wide travel lane. Because one travel lane would be removed, all northbound traffic would be forced onto a single lane. When a bus is in the bus stop, the bus may encroach into the adjacent travel lane, possibly blocking northbound traffic going through this intersection. However, because transit activity is low at this approach, with approximately six northbound buses per hour during the AM and PM peak periods, this situation would not occur frequently and would not be considered a significant transit impact.

Project 2-1 shares a common intersection (Intersection 6: 2nd Street/Townsend Street) with Project 2-16: Townsend Street Bicycle Lanes, 8th Street to The Embarcadero. The transit delay

analysis below (Projects 2-1 and 2-16 combined) reflects the combined impact of Projects 2-1 and 2-16 modifications to the 2nd Street/Townsend Street intersection on transit delay. The impacts resulting from the implementation of individual Project 2-1 without Project 2-16 modifications to the 2nd Street/Townsend Street intersection follow.

There would be no travel time delays resulting from implementation of either Option 1 or Option 2 of the combined Projects 2-1 and 2-16 for Muni bus lines 9, 10, and 71 between Market and Mission Streets because these three bus lines travel in the southbound direction only on this block; there are no substantial geometric changes at the Mission Street intersection. Muni bus lines 10 and 108 between Howard and Townsend Streets would be affected by the combined Projects 2-1 and 2-16; these impacts are discussed below.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 2-1 and 2-16 combined
  For Existing conditions for implementation of combined Projects 2-1 and 2-16, Option 1 would add approximately 160 seconds (2.7 minutes) of delay southbound and approximately 703 seconds of delay (11.7 minutes) northbound to Muni bus line 10 in the PM peak period. Approximately 160 seconds (2.7 minutes) of delay would be added to Muni bus line 108 southbound in the PM peak period. The headways for Muni bus lines 10 and 108 in the PM peak period are 10 and 15 minutes, respectively. For Muni bus line 10, the total added delay of approximately 863 seconds (14.4 minutes) would be greater than the transit delay threshold of six minutes. For Muni bus line 108, the total added delay of 160 seconds (2.7 minutes) would be less than the transit delay threshold of six minutes. Therefore, a significant transit impact (Significant Impact TR-P2-1o) would occur on Muni bus line 10 with the implementation of combined Projects 2-1 and 2-16 Option 1 under Existing plus Project conditions. Muni bus line 108 would not be significantly impacted.

  Existing and Existing plus Project Conditions for Project 2-1
  For Existing conditions individual Project 2-1 Option 1 would add approximately 160 seconds (2.7 minutes) of delay southbound and approximately 685 seconds of delay (11.4 minutes) northbound to Muni bus line 10 in the PM peak period. Approximately 160 seconds (2.7 minutes) of delay would be added to Muni bus line 108 southbound in the PM peak period. The headways for Muni bus lines 10 and 108 in the PM peak period are 10 and 15 minutes, respectively. For Muni bus line 10, the total added delay of approximately 845 seconds (14.1 minutes) would be greater than the transit delay threshold of six minutes. For Muni bus line 108, the total added delay of 160 seconds (2.7 minutes) would be less than the transit delay threshold of six minutes. Therefore, a significant transit impact (Significant Impact TR-P2-1s) would occur on Muni bus line 10 with the implementation of Project 2-1 Option 1 under Existing plus Project conditions. Muni bus line 108 would not be significantly impacted by Project 2-1 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-1 and 2-16 combined

For 2025 Cumulative plus Project conditions the implementation of combined Projects 2-1 and 2-16 Option 1 would reduce delay by approximately 216 seconds (3.6 minutes) southbound because of proposed changes to the intersection configuration at the 2nd Street/Harrison Street intersection. However, approximately 888 seconds (14.7 minutes) of delay would be added to northbound Muni bus line 10. Option 1 would reduce delay on Muni bus line 108 southbound by approximately 216 seconds (3.6 minutes). The headways for Muni bus lines 10 and 108 in the PM peak period are 10 and 15 minutes, respectively. For Muni bus line 10, the total added delay of approximately 672 seconds (11.2 minutes) would be greater than the transit delay threshold of six minutes. For Muni bus line 108, total delay would be reduced. Therefore, a significant transit impact (Significant Impact TR-P2-1q) would occur on Muni bus line 10 with the implementation of combined Projects 2-1 and 2-16 Option 1 under 2025 Cumulative plus Project conditions. Muni bus line 108 would not be significantly impacted.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-1

For 2025 Cumulative plus Project conditions for individual Project 2-1 Option 1 would reduce southbound delay by approximately 216 seconds (3.6 minutes) because of proposed changes to the intersection configuration at the 2nd Street/Harrison Street intersection. However, approximately 666 seconds (11.1 minutes) of delay would be added to northbound Muni bus line 10. Option 1 would reduce southbound delay on Muni bus line 108 by approximately 216 seconds (3.6 minutes). The headways for Muni bus lines 10 and 108 in the PM peak period are 10 and 15 minutes, respectively. For Muni bus line 10, the total added delay of 450 seconds (7.5 minutes) would be greater than the transit delay threshold of six minutes. For Muni bus line 108, total delay would be reduced. Therefore, a significant transit impact (Significant Impact TR-P2-1u) would occur on Muni bus line 10 with the implementation of Project 2-1 Option 1 under 2025 Cumulative plus Project conditions. Muni bus line 108 would not be significantly impacted.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 2-1 and 2-16 combined

For Existing plus project conditions for combined Projects 2-1 and 2-16 Option 2 would add approximately 192 seconds (3.2 minutes) of delay southbound and approximately 332 seconds (5.5 minutes) of delay northbound to Muni bus line 10 in the PM peak period. Approximately 176 seconds (2.9 minutes) of delay would be added to Muni bus line 108 southbound. The headways for Muni bus lines 10 and 108 in the PM peak period are 10 and 15 minutes, respectively. For Muni bus line 10, the total added delay of approximately 524 seconds (8.7 minutes) would be greater than the transit delay threshold of six minutes. For Muni bus line 108, the total added delay of 176 seconds (2.9 minutes) would be less than the transit delay threshold of six minutes. Therefore, a

significant transit impact (Significant Impact TR-P2-1p) would occur on Muni bus line 10 with the implementation of combined Projects 2-1 and 2-16 Option 2 under Existing plus Project conditions. Muni bus line 108 would not be significantly impacted by the implementation of Project 2-1 Option 2.

Existing and Existing plus Project Conditions for Project 2-1

For Existing plus project conditions implementation of Project 2-1 Option 2 would add approximately 192 seconds (3.2 minutes) of delay southbound and approximately 314 seconds (5.2 minutes) of delay northbound to Muni bus line 10 in the PM peak period. Approximately 175 seconds (2.9 minutes) of delay would be added to Muni bus line 108 southbound. The headways for Muni bus lines 10 and 108 in the PM peak period are 10 and 15 minutes, respectively. For Muni bus line 10, the total added delay of approximately 506 seconds (8.4 minutes) would be greater than the transit delay threshold of six minutes. For Muni bus line 108, the total added delay of 175 seconds (2.9 minutes) would be less than the transit delay threshold of six minutes. Therefore, a significant transit impact (Significant Impact TR-P2-1t) would occur on Muni bus line 10 with the implementation of Project 2-1 Option 2 under Existing plus Project conditions. Muni bus line 108 would not be significantly impacted.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-1 and 2-16 combined

For 2025 Cumulative plus Project conditions for implementation of combined Projects 2-1 and 2-16 Option 2 would add approximately 192 seconds (3.2 minutes) of delay southbound and approximately 665 seconds (11.0 minutes) of delay northbound to Muni bus line 10. Approximately 192 seconds (3.2 minutes) of delay would be added to Muni bus line 108 southbound. The headways for Muni bus lines 10 and 108 in the PM peak period are 10 and 15 minutes, respectively. For Muni bus line 10, the total added delay of 857 seconds (14.2 minutes) would be greater than the transit delay threshold of six minutes. For Muni bus line 108, the total added delay of 192 seconds (3.2 minutes) would be less than the transit delay threshold of six minutes. Therefore, a significant transit impact (Significant Impact TR-P2-1r) would occur on Muni bus line 10 with the implementation of individual Project 2-1 Option 2 under 2025 Cumulative plus Project conditions. Muni bus line 108 would not be significantly impacted.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-1

For 2025 Cumulative plus Project conditions for Project 2-1 Option 2 would add approximately 192 seconds (3.2 minutes) of delay southbound and approximately 665 seconds (11.0 minutes) of delay northbound to Muni bus line 10. Approximately 192 seconds (3.2 minutes) of delay would be added to Muni bus line 108 southbound. The headways for Muni bus lines 10 and 108 in the PM peak period are 10 and 15 minutes, respectively. For Muni bus line 10, the total added delay of 857 seconds (14.2 minutes) would be greater than the transit delay threshold of six minutes. For Muni bus line 108, the total added delay of 192 seconds (3.2 minutes) would be less than the transit delay

threshold of six minutes. Therefore, a significant transit impact (Significant Impact TR-P2-1v) would occur on Muni bus line 10 with the implementation of Project 2.-1 Option 2 under 2025 Cumulative plus Project conditions. Muni bus line 108 would not be significantly impacted.

Significant Impact 2-1o (Projects 2-1 and 2-16 combined):

Muni bus line 10 would experience significant delays as a result of implementation of the combined Projects 2-1 and 2-16 Option 1 under Existing plus Project conditions.

Significant Impact 2-1p (Projects 2-1 and 2-16 combined):

Muni bus line 10 would experience significant delays as a result of Option 2 of the combined Projects 2-1 and 2-16 under Existing plus Project conditions.

Significant Impact 2-1q (Projects 2-1 and 2-16 combined):

Muni bus line 10 would experience significant delays as a result of implementation of Option 1 of the combined Projects 2-1 and 2-16 under 2025 Cumulative plus Project conditions.

Significant Impact 2-1r (Projects 2-1 and 2-16 combined):

Muni bus line 10 would experience significant delays as a result of implementation of Option 2 of the combined Projects 2-1 and 2-16 under 2025 Cumulative plus Project conditions.

Significant Impact 2-1s:

A significant transit impact to Muni bus line 10 would occur as a result of individual Project 2-1 with Option 1 under Existing plus Project conditions.

Significant Impact 2-1t:

A significant transit impact to Muni bus line 10 would occur as a result of individual Project 2-1 Option 2 under Existing plus Project conditions.

Significant Impact 2-1u:

A significant transit impact would occur to Muni bus line 10 as a result of individual Project 2-1 with Option 1 under 2025 Cumulative plus Project conditions.

Significant Impact 2-1v:

A significant transit impact would occur to Muni bus line 10 as a result of individual Project 2-1 Option 2 under 2025 Cumulative plus Project conditions.

PARKING

There are a total of approximately 245 existing on-street parking spaces on both sides of 2nd Street between King and Market Streets. The overall existing midday parking occupancy rate is approximately 70 percent.[9] Option 1 would remove approximately 97 parking spaces and Option 2 would remove approximately 88 on-street parking spaces between Market and Brannan Streets. This change would potentially increase the midday occupancy rate along 2nd Street to over 100 percent.

San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

In San Francisco, parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social effects need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact (CEQA Guidelines § 15131(a)). The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if

[9] Based on field surveys conducted by CHS Consulting during the midday on Wednesday, November 28, 2007 and Wednesday, December 5, 2007.

convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor. Therefore, neither Option 1 nor Option 2 of Project 2-1 would result in a significant parking impact. Impacts on loading resulting from this parking removal are discussed below in the Loading section.

PEDESTRIAN

There would be no changes in sidewalk width or crosswalk layout, and the interactions between pedestrians and bicyclists would not change as a result of Project 2-1. Therefore, there would be no pedestrian impacts with implementation of either Option 1 or Option 2 of Project 2-1.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. The installation of sharrows would increase the motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone'.[10] As discussed below under Loading, bicyclists would be required to use the general travel lane to pass vehicles double-parked for passenger loading in front of the Marriott Courtyard Hotel on the east side of 2nd Street between Clementina and Folsom Streets. This would not differ from existing conditions. Therefore, neither Option 1 nor Option 2 of Project 2-1 would have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

With both Option 1 and Option 2, removal of the on-street parking lane in front of the Marriott Courtyard Hotel on the east side of 2nd Street between Clementina and Folsom Streets could result in a potential impact because it would cause the elimination of the passenger

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[10] In February 2004, Alta Planning + Design completed a study, *San Francisco's Shared Lane Pavement Markings: Improving Bicycle Safety*, on shared lane markings for Class III bikeways in San Francisco. In this study, a key conclusion was that the pavement markings (also known as sharrow markings) increased the awareness of the bicyclists' and motorists' position on the road. Bicyclists tended to ride further from parked cars, and motorists tended to pass bicyclists at a greater distance from the pavement marking. The report's recommendation was to use the sharrow markings on appropriate shared lanes but not as a substitution for bicycle lanes where feasible.

loading/unloading (white) zone in front of the hotel. Although an off-street porte cochere is available at this location, hotel guests and taxis typically use the white zone for loading/unloading. Without available passenger loading/unloading in front of this hotel, hotel taxis and patrons may park in the proposed bicycle lane or travel lane, especially during the peak hotel check-in and check-out times. While bicycles can use the general travel lane to pass the vehicle double-parking in the bicycle lane, the safety benefits of the bicycle lane in this area would be negated during peak loading periods for the hotel. Vehicles parked at the curb in the bicycle lane or travel lane would not impact transit because there are no northbound transit lines in this segment of 2nd Street, but they would potentially interfere with bicycle movement and other vehicular traffic. Therefore, a significant passenger loading impact (Significant Impacts TR-P2-1w, TR-P2-1x, TR-P2-1y, and TR-P2-1z) would occur on the east side of 2nd Street between Clementina Street and Folsom Street with implementation of Project 2-1 with Option 1 or Option 2 under Existing plus Project and 2025 Cumulative plus Project conditions.

There are approximately 40 existing on-street yellow commercial freight loading spaces along 2nd Street between Market and Bryant Streets. In addition, several large size office buildings have off-street loading spaces to accommodate the loading demand; observations noted occasional double-parking by delivery vehicles along 2nd Street. Both options would remove approximately three to five loading spaces per block in the northbound direction between Market and Harrison Streets. Because there are smaller scale office and retail uses along these blocks relying on on-street yellow commercial freight loading spaces for loading, delivery trucks may be forced to double-park in the travel lane or the bicycle lane to make deliveries. Therefore, a significant commercial freight loading impact (Significant Impacts TR-P2-1aa, TR-P2-1bb, TR-P2-1cc, and TR-P2-1dd) would occur on 2nd Street between Market Street and Bryant Street with implementation of Project 2-1 with either Option 1 or Option 2 under Existing plus Project and 2025 Cumulative plus Project.

Significant Impact 2-1w:

A significant impact on passenger loading would occur on the east side of 2nd Street between Clementina Street and Folsom Street as a result of Project 2-1 Option 1 under Existing plus Project conditions.

Significant Impact 2-1x:

A significant impact on passenger loading would occur along 2nd Street between Clementina Street and Folsom Street as a result of Project 2-1 with Option 2 under Existing plus Project conditions.

Significant Impact 2-1y:

A significant impact on passenger loading would occur along 2nd Street between Clementina and Folsom Street as a result of Project 2-1 with Option 1 under 2025 Cumulative plus Project conditions.

Significant Impact 2-1z:

A significant impact on passenger loading would occur along 2nd Street between Clementina and Folsom Street as a result of Project 2-1 with Option 2 under 2025 Cumulative plus Project conditions.

Significant Impact 2-1aa:

A significant impact on commercial freight loading would occur along 2nd Street between Market Street and Bryant Street as a result of Project 2-1 with Option 1 under Existing plus Project conditions.

Significant Impact 2-1bb:

A significant impact on commercial freight loading would occur along 2nd Street between Market Street/Bryant Street as a result of Project 2-1 with Option 2 under Existing plus Project conditions.

Significant Impact 2-1cc:

A significant impact on commercial freight loading would occur along 2nd Street between Market Street and Bryant Street as a result of Project 2-1 with Option 1 under 2025 Cumulative plus Project conditions.

Significant Impact 2-1dd:

A significant impact on commercial freight loading would occur along 2nd Street between Market Street and Bryant Street as a result of Project 2-1 with Option 2 under 2025 Cumulative plus Project conditions.

PROJECT 2-2: 5TH STREET BICYCLE LANES, MARKET STREET TO TOWNSEND STREET

There are two options for this segment of 5th Street:

Option 1 would add a Class II bicycle lane in both directions between Mission and Townsend Streets, except in both directions between Howard and Tehama Streets and between Market and

Mission Streets where sharrows would be added. This option would also remove one northbound travel lane between Harrison and Howard Streets and between Townsend and Bryant Streets; instead, turn pockets would be added at the approach to several intersections to accommodate turning movement. Approximately 40 on-street parking spaces would be lost (13 on the east side and 27 on the west side) along 5th Street.

Option 2 would add Class II bicycle lanes in both directions between Market and Townsend Streets except in the following segments: both directions between Market and Mission Streets, both directions between Folsom Street, and approximately 100 feet northerly and northbound between Harrison Street and approximately 100 feet northerly. Sharrows would be added along these segments. This option would also remove one northbound travel lane between Townsend and Brannan Streets, one southbound travel lane between Natoma Street and Folsom Street, and one southbound travel lane between Harrison Street and Bryant Street. Instead, turn pockets would be added at the approach to several intersections to accommodate turning movement. Approximately 71 on-street parking spaces would be lost (three on the east side and 68 on the west side) along 5th Street.

Traffic: Intersection Level of Service (LOS)

Intersection LOS calculations were performed for the PM peak hour.

Nine study intersections are included for the PM Peak Hour for Project 2-2. Table V.2-17, p. V.A.3-235, and Table V.2-18, p. V.A.3-235, summarize these results for Existing plus Project conditions.

Intersection 7: 5th Street/Bryant Street

- **Option 1**

  Existing and Existing plus Project Conditions
  Under Existing conditions, for the PM peak hour, this intersection operates at LOS E. The 5th Street/Bryant Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions. The southbound lane configuration would be modified from one through lane, one shared through-left turn lane, and one exclusive left-turn lane to one through lane and two exclusive left-turn lanes. In addition, the northbound lane configuration would be modified from one through lane, one shared through-right lane, and one exclusive right-turn lane to one

TABLE V.2-17
CLUSTER 2 – PROJECT 2-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY –EXISTING AND EXISTING PLUS PROJECT CONDITIONS – WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
7.	5th Street/Bryant Street	**75.8**	**E**	**>80**	**F**	**>80**	**F**
8.	5th Street/Harrison Street	52.5	D	40.3	D	52.5	D
9.	5th Street/Brannan Street	**55.3**	**E**	47.2	D	48	D
10.	5th Street/Mission Street	45.8	D	45.8	D	45.8	D
11.	5th Street/Market Street	15.4	B	15.4	B	15.4	B
12.	5th Street/Howard Street	24.3	C	21.5	C	29	C
13.	5th Street/Folsom Street	16.8	B	19.7	B	17.5	B
17.	6th Street /Brannan Street	**>80**	**F**	**>80**	**F**	**>80**	**F**
18.	4th Street/Harrison Street	**63.2**	**E**	**63.2**	**E**	**63.2**	**E**

Source: Wilbur Smith Associates, October 2008.
Notes:
a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-18
CLUSTER 2 – PROJECT 2-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
7.	5th Street/Bryant Street	**>80**	**F**	**>80**	**F**	**>80**	**F**
8.	5th Street/Harrison Street	**72.7**	**E**	**60.4**	**E**	**72.7**	**E**
9.	5th Street/Brannan Street	**>80**	**F**	**>80**	**F**	**>80**	**F**
10.	5th Street/Mission Street	**>80**	**F**	**>80**	**F**	**>80**	**F**
11.	5th Street/Market Street	50	D	50	D	50	D
12.	5th Street/Howard Street	**77.1**	**E**	50.7	D	**>80**	**F**
13.	5th Street/Folsom Street	32.2	C	37	D	32.8	C
17.	6th Street /Brannan Street	**>80**	**F**	**>80**	**F**	**>80**	**F**
18.	4th Street/Harrison Street	**67.4**	**E**	**67.4**	**E**	**67.4**	**E**

Source: Wilbur Smith Associates, October 2008.
Notes:
a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

through lane and one exclusive right-turn lane. Due to the lane configuration modification in the southbound and eastbound approaches, there would be an increase in delay at this intersection. Because the eastbound critical movement at 5th Street/Bryant Street either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P2-2a) would occur at the 5th Street/Bryant Street intersection with the implementation of Project 2-2 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 5th Street/Bryant Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions for the PM peak hour. The 5th Street/Bryant Street intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Deterioration of the eastbound and southbound critical movement at 5th Street and Bryant Street for Existing plus Project to LOS F relative to Existing Conditions, is determined a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project compared to 2025 Cumulative conditions. Therefore, a significant impact would (Significant Impact TR-P2-2c) occur at 5th Street/Bryant Street intersection with implementation of Project 2-2 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions

Under Existing conditions, for the PM peak hour, this intersection operates at LOS E. The 5th Street/Bryant Street intersection would also operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions. The southbound lane configuration would be modified from one through lane, one shared through-left turn lane, and one exclusive left-turn lane to one through lane and one exclusive left-turn lane. In addition, the northbound lane configuration would be modified from one through lane, one shared through-right lane, and one exclusive right-turn lane to two through lanes and one exclusive right-turn lane. Due to the reduction in capacity in the northbound, southbound and eastbound approaches, there would be an increase in delay for this intersection. Because the northbound, southbound and eastbound critical movements at 5th Street/Bryant Street either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P2-2b) would occur at 5th Street/Bryant Street intersection with the implementation of Project 2-2 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 5th Street/Bryant Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions for the PM peak hour. The 5th Street/Bryant Street intersection would continue to operate

unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Deterioration of the northbound, southbound, and eastbound critical movements at 5th Street and Bryant Street for Existing plus Project to LOS F relative to Existing Conditions, is determined a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-2d) would occur at 5th Street/Bryant Street intersection with implementation of Project 2-2 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 8: 5th Street/Harrison Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS D with 52.5 seconds of delay. The 5th Street/Harrison Street intersection would operate satisfactorily at LOS D, with 40.3 seconds of delay under Existing plus Project conditions. The northbound lane configuration would be modified from one through lane and one shared through-left lane to one through lane and one exclusive left-turn lane. In addition, the southbound lane configuration would be modified from one through lane and one shared through-right lane to two through lanes and one exclusive right turn lane. Due to the lane configuration modifications to the northbound approach and southbound approach, there is a decrease in delay at this intersection under Existing plus Project conditions. However, the LOS does not change and the intersection continues to operate at LOS D under Existing plus Project conditions. Therefore, a significant impact would not occur at 5th Street/Bryant Street intersection with the implementation of Project 2-2 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 5th Street/Harrison Street intersection would operate unsatisfactorily at LOS E, with more than 55 seconds of average delay under 2025 Cumulative conditions for the PM peak hour. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS E. Since the southbound critical movement improves relative to 2025 Cumulative conditions, a significant impact would not occur at the 5th Street/Harrison Street intersection with the implementation of Project 2-2 Option 1 for 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS D with 52.5 seconds of delay. The 5th Street/Harrison Street intersection would continue to operate satisfactorily at LOS D, with 52.5 seconds of delay under Existing plus Project

conditions, as no lane configuration adjustments occur under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay for this intersection. Therefore, a significant impact would not occur at the 5th Street/Harrison Street intersection with the implementation of Project 2-2 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 5th Street/Harrison Street intersection would operate unsatisfactorily at LOS E, with more than 55 seconds of average delay under 2025 Cumulative conditions for the PM peak hour. The 5th Street/Harrison Street intersection would operate unsatisfactorily at LOS E, with more than 55 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Therefore, a significant impact would not occur at the 5th Street/Harrison Street intersection with the implementation of Project 2-2 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 9: 5th Street/Brannan Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS E with 55.3 seconds of delay. The 5th Street/Brannan Street intersection would operate satisfactorily at LOS D, with 47.2 seconds of delay under Existing plus Project conditions. The northbound lane configuration would be modified from one shared through-left turn lane and one shared through-right turn lane to one exclusive left-turn lane and one shared through-right turn lane. In addition, the southbound lane configuration would be modified from one shared through-left turn lane and one shared through-right turn lane to one shared through-left turn lane, one through lane, and one exclusive right-turn lane. Due to the lane configuration modifications to the northbound approach and southbound approach, there is a decrease in delay at this intersection. The intersection delay decreases by 8.1 seconds, compared to Existing conditions. However, the southbound critical movement improves and does not deteriorate under Existing plus Project conditions. Therefore, a significant impact would not occur at the 5th Street/Brannan Street intersection with the implementation of Project 2-2 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 5th Street/Brannan Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions for the PM peak hour. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Since there would be no change to the LOS and the southbound critical movements under 2025 Cumulative plus Project conditions improve relative to 2025 Cumulative conditions, a significant

impact would not occur at the 5th Street/Brannan Street intersection with the implementation of Project 2-2 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS E with 55.3 seconds of delay. The 5th Street/Brannan Street intersection would also operate satisfactorily at LOS D, with 48 seconds of delay under Existing plus Project conditions. The northbound lane configuration would be modified from one shared through-left turn lane and one shared through-right turn lane to one exclusive left-turn lane and one shared through-right turn lane. In addition, the southbound lane configuration would be modified from one shared through-left turn lane and one shared through-right turn lane to one shared through-left lane and one exclusive right-turn lane. Due to the lane configuration modifications to the northbound approach and southbound approach, there is a decrease in delay at this intersection. The intersection delay decreases by 7.3 seconds compared to Existing conditions. However, the southbound critical movement improves and does not deteriorate under Existing plus Project conditions. Therefore, a significant impact would not occur at the 5th Street/Brannan Street intersection with the implementation of Project 2-2 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 5th Street/Brannan Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions for the PM peak hour. The V/C ratio would increase by 53 percent (from 1.17 to 1.68), compared to 2025 Cumulative conditions. Because the northbound, southbound and eastbound critical movements at 5th Street/Brannan Street would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P2-2f) would occur at the 5th Street/Brannan Street intersection with implementation of Project 2-2 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 10: 5th Street/Mission Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS D with 45.8 seconds of delay. The 5th Street/Mission Street intersection would continue to operate satisfactorily at LOS D, with 45.8 seconds of delay under Existing plus Project conditions. This is due to the fact that there are no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, a significant

impact would not occur at the 5th Street/Mission Street intersection with the implementation of Project 2-2 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 5th Street/Mission Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. The intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions, and there will therefore be no change in LOS or delay for this intersection. Therefore, a significant impact would not occur at the 5th Street/Mission Street intersection with the implementation of Project 2-2 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS D with 45.8 seconds of delay. The 5th Street/Mission Street intersection would also operate satisfactorily at LOS D, with 45.8 seconds of delay under Existing plus Project conditions. There are no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection compared to Existing conditions. Therefore, a significant impact would not occur at the 5th Street/Mission Street intersection with the implementation of Project 2-2 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 5th Street/Mission Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. The intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus, a significant impact would not occur at the 5th Street/Mission Street intersection with the implementation of Project 2-2 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 11: 5th Street/Market Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS B with 15.4 seconds of delay. The 5th Street/Market Street intersection would operate satisfactorily at LOS B, with 15.4 seconds of delay under Existing plus Project conditions. There are no lane

configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, a significant impact would not occur at 5th Street/Market Street intersection with the implementation of Project 2-2 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 5th Street/Market Street intersection would operate satisfactorily at LOS D, with 50 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate satisfactorily at LOS D, with 50 seconds of delay. There are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to 2025 Cumulative conditions. Therefore, a significant impact would not occur at 5th Street/Market Street intersection with the implementation of Project 2-2 Option 1.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS B with 15.4 seconds of delay. The study intersection would also operate satisfactorily at LOS B, with 15.4 seconds of delay under Existing plus Project conditions. There are no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, a significant impact would not occur at 5th Street/Market Street intersection with the implementation of Project 2-2 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 5th Street/Market Street intersection would operate satisfactorily at LOS D, with 50 seconds of delay under 2025 Cumulative plus Project conditions. There are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to 2025 Cumulative conditions. Therefore, a significant impact would not occur at 5th Street/Market Street intersection with the implementation of Project 2-2 Option 2.

Intersection 12: 5th Street/Howard Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS C with 24.3 seconds of delay. The 5th Street/Howard Street intersection would operate satisfactorily at LOS C, with 21.5 seconds of delay under Existing plus Project conditions. The northbound lane configuration would be modified from one through

lane and one shared through-left turn lane to one through lane and one exclusive left-turn lane. In addition, the southbound lane configuration would be modified from one through lane and one shared through-right lane to two through lanes and one exclusive right-turn lane. Due to the lane configuration modifications to the northbound approach and southbound approach, there is a decrease in delay at this intersection. The intersection delay decreases by 2.8 seconds, compared to Existing conditions. Furthermore, the LOS does not change under Existing plus Project conditions. Therefore, a significant impact would not occur at 5th Street/Howard Street intersection with the implementation of Project 2-2 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 5th Street/Howard Street intersection would operate unsatisfactorily at LOS E, with 77.1 seconds of average delay under 2025 Cumulative conditions for the PM peak hour. Under 2025 Cumulative plus Project conditions, this intersection would operate satisfactorily at LOS D, with 50.7 seconds of delay under 2025 Cumulative plus Project conditions. Since the northbound critical movement improves, relative to 2025 Cumulative conditions, a significant impact would not occur at the 5th Street/Howard Street intersection with the implementation of Project 2-2 Option 1.

- **Option 2**

Existing and Existing plus Project Conditions

Under Existing conditions, for the PM peak hour, this intersection operates at LOS C with 24.3 seconds of delay. The 5th Street/Howard Street intersection would also operate satisfactorily at LOS C, with 29 seconds of delay under Existing plus Project conditions. The southbound lane configuration would be modified from one through lane and one shared through-right turn lane to one through lane and one exclusive right-turn lane. Due to the lane configuration modifications to the southbound approach, there would be an increase in delay at this intersection. The intersection would increase by 4.7 seconds, compared to Existing conditions. However, the LOS does not change under Existing plus Project conditions. Therefore, a significant impact would not occur at 5th Street/Howard Street intersection with the implementation of Project 2-2 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 5th Street/Howard Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions for the PM peak hour. Because the northbound and westbound critical movements at 5th Street/Howard Street would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P2-2e) would occur at 5th Street/Howard Street intersection with the implementation of Project 2-2 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 13: 5th Street/Folsom Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS B with 16.8 seconds of delay. The 5th Street/Folsom Street intersection would operate satisfactorily at LOS B, with 19.7 seconds of delay under Existing plus Project conditions. The northbound lane configuration would be modified from one through lane and one shared through-right turn lane to one through lane and one exclusive right-turn lane. Due to the modification of lane configuration in the northbound direction, there would be an increase in delay at this intersection. The intersection would increase by 2.9 seconds (from 16.8 to 19.7 seconds) compared to Existing conditions. However, the LOS does not change under Existing plus Project conditions. Therefore, a significant impact would not occur at 5th Street/Folsom Street intersection with the implementation of Project 2-2 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 5th Street/Folsom Street intersection would operate satisfactorily at LOS C, with 32.2 seconds of average delay under 2025 Cumulative conditions. The 5th Street/Folsom Street intersection would operate satisfactorily at LOS D, with 37 seconds of delay under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at 5th Street/Folsom Street intersection with the implementation of Project 2-2 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS B with 16.8 seconds of delay. The study intersection would operate satisfactorily at LOS B, with 17.5 seconds of delay under Existing plus Project conditions. The southbound lane configuration would be modified from one through lane and one shared through-left turn lane to one through lane and one exclusive left-turn lane. Due to the lane configuration modification to the southbound approach, there would be an increase in delay at this intersection. The intersection would increase by 0.7 seconds compared to Existing conditions. However, the intersection continues to operate at LOS B under Existing plus Project conditions. Therefore, a significant impact would not occur at 5th Street/Folsom Street intersection with the implementation of Project 2-2 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 5th Street/Folsom Street intersection would operate satisfactorily at LOS C, with 32.8 seconds of delay under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at 5th Street/Folsom Street intersection with the implementation of Project 2-2 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 17: 6th Street/Brannan Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates unsatisfactorily at LOS F with more than 80 seconds of average delay. The 6th Street/Brannan Street intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions. There are no lane configuration adjustments to the study intersection under Existing plus Project conditions for Option 1. Hence, there would be no change in LOS or delay for this intersection compared to Existing conditions. Therefore, a significant impact would not occur at the 6th Street/Brannan Street intersection with the implementation of Project 2-2 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 6th Street/Brannan Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions. Hence, there would be no change in LOS or delay for this intersection compared to Existing conditions. Therefore, a significant impact would not occur at the 6th Street/Brannan Street intersection with the implementation of Project 2-2 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates unsatisfactorily at LOS F with more than 80 seconds of average delay. The 6th Street/Brannan Street intersection would also operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions. There are no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Because of the current lane configuration and operations, the study intersection would continue operating at LOS F, with more than 80 seconds of delay. Thus, a significant impact would not occur at the 6th Street/Brannan Street intersection with the implementation of Project 2-2 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 6th Street/Brannan Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions. Hence, there would be no change in LOS or delay for this intersection. Therefore, a significant impact would not occur at the 6th

Street/Brannan Street intersection with the implementation of Project 2-2 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 18: 4th Street/Harrison Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS E with 63.2 seconds of delay. The 4th Street/Harrison Street intersection would continue to operate unsatisfactorily at LOS E, with 63.2 seconds of delay under Existing plus Project conditions. There are no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, a significant impact would not occur at the 4th Street/Harrison Street intersection with the implementation of Project 2-2 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 4th Street/Harrison Street intersection would operate unsatisfactorily at LOS E, with 67.4 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS E, with 67.4 seconds of delay. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at the 4th Street/Harrison Street intersection with the implementation of Project 2-2 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS E with 63.2 seconds of delay. The 4th Street/Harrison Street intersection would also operate unsatisfactorily at LOS E, with more than 63.2 seconds of delay under Existing plus Project conditions. There are no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Because there would be no change to the current lane configuration and operations, the study intersection would continue operating at LOS E, with 63.2 seconds of delay. Therefore, a significant impact would not occur at the 4th Street/Harrison Street intersection with the implementation of Project 2-2 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 4th Street/Harrison Street intersection would operate unsatisfactorily at LOS E, with 67.4 seconds of delay under 2025 Cumulative plus Project conditions. However, there

are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection, as shown on Table V.2-18, p. V.A.3-235. Thus a significant impact would not occur at the 4th Street/Harrison Street intersection with the implementation of Project 2-2 Option 2 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P2-2a:

The intersection of 5th Street/Bryant Street would operate at LOS F under Existing plus Project conditions for Option 1 of Project 2-2.

Significant Impact TR-P2-2b:

The intersection of 5th Street/Bryant Street would operate at LOS F under Existing plus Project conditions for Project 2-2 Option 2.

Significant Impact TR-P2-2c:

The intersection of 5th Street/Bryant Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-2 Option 1.

Significant Impact TR-P2-2d:

The intersection of 5th Street/Bryant Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-2 Option 2.

Significant Impact TR-P2-2e:

The intersection of 5th Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 2.

Significant Impact TR-P2-2f:

The intersection of 5th Street/Brannan Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-2 Option 2.

TRANSIT

Muni bus lines 26, 27, and 47 run on portions of 5th Street. Muni bus line 26 runs southbound only between Mission and Howard Streets. Muni bus line 27 runs in both directions between Market and Harrison Streets (southbound) and Market and Bryant Streets (northbound). Muni bus line 47 runs northbound only between Townsend and Harrison Streets. Between Market and Mission Streets, Muni bus lines 26 and 27 run approximately five northbound buses and eight southbound buses per hour during the AM and PM peak periods. Between Mission and

Harrison Streets, Muni bus line 27 runs approximately five northbound and southbound buses per hour during the AM and PM peak periods. Between Harrison and Bryant Streets, Muni bus lines 27 and 47 run approximately thirteen northbound buses and five southbound buses per hour during the AM and PM peak periods.

There are both far side and near side bus stops along this section of 5th Street and most buses have been observed[11] to pull into the bus stop zone. Bicycle volumes along 5th Street are high near Market Street but low along the rest of the corridor. Therefore, there is very little interaction between buses and bicyclists at the present time.

- **Option 1**

  Existing and Existing plus Project Conditions

  With implementation of Project 2-2 Option 1, the reduction from two northbound travel lanes to one travel lane, between Tehama and Harrison Streets, would require buses and other vehicles to travel in the same lane, and buses would have to merge into traffic when exiting the bus stops. The northbound bus stop on the far side of Harrison Street is seven feet wide, which is insufficient to accommodate buses at the curb without protruding into the proposed bicycle lane. However, the 12-foot wide travel lane and the six-foot wide bicycle lane would accommodate bicyclists passing buses to the left at the bus stop to avoid conflicts or minimize impacts on transit operation and travel time.

  For Existing conditions, Option 1 would not impact travel time for Muni bus line 26. For Muni bus line 27, Option 1 would add approximately 206 seconds (3.4 minutes) of delay per vehicle northbound, but would reduce delay on this line by approximately 47 seconds of delay per vehicle southbound. For Muni bus line 47, Option 1 would add approximately 7 seconds of delay per vehicle northbound. The headways for Muni bus lines 26, 27 and 47 in the PM peak period are 20, 12, and 7.5 minutes, respectively. Travel time for Muni bus line 26 would not change with implementation of Project 2-2 Option 1. For Muni bus line 27, the total added delay of 159 seconds (2.6 minutes) would be less than the transit delay threshold of 6 minutes. For Muni bus line 47, the total added delay of 7 seconds would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with the implementation of Project 2-2 Option 1 under Existing plus Project conditions.

  2025 Cumulative and 2025 Cumulative plus Project Conditions

  For Cumulative plus Project conditions, Option 1 would not impact travel time for Muni bus line 26. For Muni bus line 27, Option 1 would add approximately 65 seconds of delay per vehicle northbound, but would reduce delay on this line by approximately 54 seconds of delay per vehicle in the southbound direction. For Muni bus line 47, Option 1

[11] Field surveys were conducted by CHS Consulting on Wednesday, August 29, 2007 during the midday.

would add approximately 201 seconds (3.4 minutes) of delay per vehicle northbound. The headways for Muni bus lines 26, 27 and 47 in the PM peak period are 20, 12 and 7.5 minutes, respectively. Travel time for Muni bus line 26 would not change with implementation of Project 2-2 Option 1. For Muni bus line 27, the total added delay of 11 seconds would be less than the transit delay threshold of six minutes. For Muni bus line 47, the total added delay of 201 seconds (3.4 minutes) would be less than the transit delay threshold of six minutes. Therefore, a significant transit impact would not occur with the implementation of Project 2-2 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions

Option 2 would not impact travel time for Muni bus line 26. For Muni bus line 27, Option 2 would add approximately 159 seconds (2.6 minutes) of delay per vehicle northbound and 15 seconds of delay southbound. For Muni bus line 47, Option 2 would reduce delay by approximately 5 seconds per vehicle northbound. The headways for Muni bus lines 26, 27 and 47 in the PM peak period are 20, 12, and 7.5 minutes, respectively. Travel time for Muni bus line 26 would not change with implementation of Project 2-2 Option 2. For Muni bus line 27, the total added delay of 174 seconds (2.9 minutes) would be less than the transit delay threshold of 6 minutes. For Muni bus line 47, total delay would be reduced by 6 seconds. Therefore, a significant transit impact would not occur with the implementation of Project 2-2 Option 2 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions

For 2025 Cumulative plus Project conditions, Option 2 would also not impact travel time for Muni bus line 26. For Muni bus line 27, Option 2 would not impact vehicle travel northbound but would add approximately 31 seconds of delay southbound. For Muni bus line 47, Option 2 would reduce delay by approximately 15 seconds per vehicle northbound. The headways for Muni bus lines 26, 27 and 47 in the PM peak period are 20, 12 and 7.5 minutes, respectively. Travel time for Muni bus line 26 would not change with implementation of Project 2-2 Option 2. For Muni bus line 27, the total added delay of 31 seconds would be less than the transit delay threshold of six minutes. For Muni bus line 47, the total delay would be reduced by 15 seconds. Therefore, a significant transit impact would not occur with the implementation of Project 2-2 Option 2 under 2025 Cumulative plus Project conditions.

PARKING

There are a total of about 200 existing on-street parking spaces on both sides of 5th Street between Market and Townsend Streets. The existing midday parking occupancy rate is

approximately 70 percent.[12] Option 1 would remove about 40 on-street parking spaces, thereby increasing the midday occupancy rate to approximately 90 percent. Option 2 would remove about 70 on-street parking spaces thereby increasing the midday occupancy rate to approximately 100 percent. With either Option 1 or Option 2, existing demand would be accommodated. Therefore, there would be no significant parking impacts with implementation of Project 2-2 with either Option 1 or Option 2.

PEDESTRIAN

There would be no changes in sidewalk width, crosswalk layout, or crossing distance; the interactions between pedestrians and bicyclists would not change as a result of Project 2-2. Therefore, there would be no significant pedestrian impacts with either Option 1 or Option 2 of Project 2-2.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. The installation of sharrows would increase the motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone'. Therefore, neither Option 1 nor Option 2 of Project 2-2 would have a significant impact on cyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

There are several on-street yellow commercial freight loading spaces along most sections of 5th Street, and there are some off-street loading spaces for the existing buildings. Loading demand is generally low, and there were no double-parked vehicles observed[13] in the field in this segment of 5th Street.

- **Option 1**
  With Option 1, there would be no loss of on-street yellow commercial freight loading spaces under Option 1. Therefore, there would be no loading impacts with implementation of Project 2-2 Option 1.

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[12] Field surveys were conducted by CHS Consulting during the midday on Wednesday, November 28, 2007 and Wednesday, December 5, 2007.

[13] Field surveys were conducted by CHS Consulting on Wednesday, August 29, 2007 during the midday.

- **Option 2**

  Option 2 would remove approximately 10 on-street yellow commercial freight loading spaces: five spaces on the west side of 5th Street between Mission and Natoma Streets and five spaces on the west side of 5th Street between Folsom and Harrison Streets in front of a gas station, a convenience store, and a low-density residential building. Southbound traffic and bicycle volumes along 5th Street are moderate during the PM peak hour and light to moderate during the weekday midday. Truck double parking for loading/unloading in the southbound curbside lane adjacent to the bike lane along 5th Street is not desirable, but would be permitted in the travel lane. Future plans for the Mint Building, located on the west side of 5th Street between Jessie and Mission Streets, call for extensive restoration for a museum, new location for the San Francisco Visitors Center, shops and restaurants. This complex would face Jessie Street which has been converted to a pedestrian mall for the one block between 5th and Mint Streets. Currently, a bus stop fronts the Mint Building on 5th Street. With Option 2 this would not change. Passenger loading for the new Mint Building complex could not occur at this location with or without Option 2 but could possibly be accommodated on Mint Street at the back of the Mint Building. Therefore, there would be no significant loading impacts with implementation of Project 2-2 Option 2.

PROJECT 2-3: 14TH STREET BICYCLE LANE, DOLORES STREET TO MARKET STREET

Option 1 of Project 2-3 was implemented on March 27, 2006 prior to the Bicycle Plan injunction; as such, post-project implementation conditions describe what is on the ground today and are analyzed under Existing plus Project and Cumulative plus Project conditions. Pre-project conditions describe what existed before the implementation of Project 2-3 and are analyzed under Existing and Cumulative conditions.

Prior to Project 2-3, this segment of 14th Street had two eastbound lanes, one westbound lane, and on-street parking on both sides. Implementation of Project 2-3 Option 1 added a Class II bicycle lane along 14th Street between Market and Dolores Streets, and changed traffic circulation from two-way to one-way eastbound and minor modifications to the existing median island at the intersection of 14th Street and Market Street. Further modifications to this median island that are proposed under Option 1, but not yet implemented, include connecting it to the existing sidewalk on the southeast corner of the intersection, in order to prevent vehicles traveling westbound on 14th Street from accessing Market Street, and to reduce the crossing distance for pedestrians crossing the east side of 14th Street at Market Street. Lane configurations with Option 1 include two eastbound lanes, one eastbound six-foot bicycle lane, and on-street parking on both sides.

Option 2 would restore the traffic circulation to two-way, add an eastbound Class II bicycle lane, and remove an eastbound travel lane between Market and Dolores Streets.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the AM and PM peak hour.

One study intersection is included for the AM peak hour for Project 2-3. Table V.2-19, p. V.A.3-251, and Table V.2-20, on p. V.A.3-252, summarize the results for Existing plus Project and Cumulative plus Project AM Peak Hour. Table V.2-21, p. V.A.3-252, and Table V.2-22, p. V.A.3-253, summarize the results for Existing plus Project and Cumulative plus Project PM Peak Hour.

Intersection 52: Church Street/Market Street/14th Street

The Church Street/Market Street/14th Street intersection is common to Projects 2-3 and 2-11 within the Cluster 2 area. For Projects 2-3 and 2-11, the lane configuration at the intersection remains the same as under Existing (No Project) conditions for Option 2. For Option 1, the westbound right-turn lane is removed relative to Existing (No Project) conditions. Project 2-11 reduces the capacity in the southwest bound direction on Market Street for this intersection. Under Project 2-11, Option 1 would eliminate one of the two through lanes in the southwest bound directions. The lane configuration for Option 2 under Project 2-11 remains the same as Existing conditions. Therefore, the analysis below reflects the impacts of both projects.

TABLE V.2-19
CLUSTER 2 – COMBINED PROJECTS 2-3 AND PROJECT 2-11
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		Existing		Existing plus Project: Option 1 Combined 2-3 and 2-11		Existing plus Project: Option 2 Combined 2-3 and 2-11	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
52.	Church Street/Market Street/ 14th Street	>80	**F**	>80	**F**	>80	**F**

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-20
CLUSTER 2 – COMBINED PROJECTS 2-3 AND 2-11
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1 Combined 2-3 and 2-11		Option 2 Combined 2-3 and 2-11	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
52.	Church Street/Market Street/ 14th Street	>80	**F**	>80	**F**	>80	**F**

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-21
CLUSTER 2 – PROJECTS 2-3 AND 2-11
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR CHURCH STREET/MARKET STREET/14TH STREET - EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

Existing		Existing plus Project Option 1				Existing plus Project Option 2			
		Project 2-3		Combined Projects 2-3 and 2-11		Project 2-3		Combined Projects 2-3 and 2-11	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
52.2	D	52.2	D	>80	**F**	52.2	D	52.2	D

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-22
CLUSTER 2 – PROJECTS 2-3 AND 2-11
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR CHURCH STREET/MARKET STREET/14TH STREET 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 2-3		Combined 2-3 and 2-11		Project 2-3		Combined 2-3 and 2-11	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	F	>80	F	>80	F	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

- **Option 1**

Existing and Existing plus Project Conditions for Projects 2-3 and 2-11 combined – AM Analysis

Under Existing conditions, for the AM peak hour, this intersection operates at LOS F with a delay of more than 80 seconds. The Church Street/Market Street/14th Street intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions for the AM peak hour. The southwest bound lane configuration would be modified from two through lanes, one exclusive left-turn lane, and one shared through-right turn lane to one through lane, one exclusive left-turn lane, and one shared through-right turn lane. The westbound lane configuration would be modified from one exclusive right-turn lane to a prohibited right-turn along this approach. Due to the lane configuration modification to the southwest bound and westbound approaches, there would be an increase in delay at this intersection. However, the LOS would not change under Existing plus Project conditions, and because the southbound critical movements at Church Street and Market Street would not deteriorate, a significant impact would not occur at the Church Street/Market Street/14th Street intersection for the AM peak hour with the implementation of Option 1 of Projects 2-3 and 2-11 combined.

Since the impacts of combined Projects 2-3 and 2-11 Option 1 would not result in a significant traffic impact the Church Street/Market Street/14th Street intersection for the AM peak hour, there would be no significant traffic impact from individual Project 2-3 Option 1 under Existing plus Project conditions.

Existing and Existing plus Project Conditions for Projects 2-3 and 2-11 combined – PM Analysis

Under Existing conditions, for the PM peak hour, this intersection operates at LOS D with 52.2 seconds of delay. The Church Street/Market Street/14th Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions for the PM peak hour. The southwest bound lane configuration would be modified from one exclusive left-turn lane, two through lanes, and one exclusive right-turn lane to one exclusive left-turn lane, one through lane, and one exclusive right-turn lane. Due to the reduction in capacity in the southwest bound approach, there would be an increase in delay for this intersection. Because the southwest-bound critical movement at Church Street/Market Street/14th Street would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project condition, a significant impact (Significant Impact TR-P2-3a) would occur at the Church Street/Market Street/14th Street intersection for the PM peak hour with implementation of Option 1 of Projects 2-3 and 2-11 combined. Table V.2-20, p. V.A.3-252, summarizes these results,

Existing and Existing plus Project Conditions for Project 2-3 alone – PM Analysis

Under Existing conditions for Project 2-3 Option 1 alone, for the PM peak hour, this intersection operates at LOS D with 52.2 seconds of delay. The Church Street/Market Street/14th Street intersection would continue to operate satisfactorily at LOS D, with 52.2 seconds of delay under Existing plus Project conditions for the PM peak hour. The westbound right-turn lane along 14th Street would be removed under Existing plus Project conditions. No other lane configuration changes are proposed as part of Project 2-3 at this intersection. However, there would be no change to the delay or LOS at this intersection due to this lane modification. Hence, a significant impact would not occur at the Church Street/Market Street/14th Street intersection with the implementation of Project 2-3 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-3 and 2-11 combined – AM Analysis

The Church Street/Market Street/14th Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative conditions for the AM peak hour. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Since there is no change in LOS and because the southbound critical movement does not deteriorate, a significant impact would not occur at the Church Street/Market Street/14th Street intersection with the implementation of Option 1 of Projects 2-3 and 2-11 combined.

Since the impacts of combined Projects 2-3 and 2-11 Option 1 would not result in a significant traffic impact the Church Street/Market Street/14th Street intersection for the AM peak hour, there would be no significant traffic impact from individual Project 2-3 Option 1 under 2025 Cumulative plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-3 and 2-11 combined – PM Analysis

The Church Street/Market Street/14th Street intersection would operate unsatisfactorily at LOS F in the PM Peak Hour, with more than 80 seconds of average delay under 2025 Cumulative conditions. The Church Street/Market Street/14th Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Deterioration of the southwest bound critical movement at Church Street/Market Street/14th Street for Existing plus Project to LOS F relative to Existing Conditions, is determined a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-3b) would occur at the Church Street/Market Street/14th Street intersection for the PM Peak hour with implementation of Option 1 of Projects 2-3 and 2-11 combined. Table V.2-22, p. V.A.3-253, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-3– PM Analysis

Under 2025 Cumulative conditions for Project 2-3 Option 1, for the PM peak hour, this intersection operates at LOS F with more than 80 seconds of delay. The Church Street/Market Street/14th Street intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions for the PM peak hour. The westbound right-turn lane along 14th Street would be removed under 2025 Cumulative plus Project conditions. No other lane configuration changes are proposed as part of Project 2-3 at this intersection. Since the westbound right-turn volume operates during the overlap phase, there would be no change to the delay or LOS at this intersection due to the lane modification. Hence, a significant impact would not occur at the Church Street/Market Street/14th Street intersection with the implementation of Project 2-3 Option 1.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 2-3 and 2-11 combined – AM Analysis

Under Existing conditions, for the AM peak hour, this intersection operates at LOS F with a delay of more than 80 seconds. The Church Street/Market Street/14th Street intersection would also operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions in the AM peak hour. There are no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, a significant impact would not occur at the Church Street/Market Street/14th Street intersection in the AM peak hour with the implementation of combined Project 2-3 and Project 2-11 Option 2.

Since the impacts of combined Projects 2-3 and 2-11 Option 2 would not result in a significant traffic impact the Church Street/Market Street/14th Street intersection for the AM peak hour, there would be no significant traffic impact from individual Project 2-3 Option 2 under Existing plus Project conditions. Table V.2-19 on, p. V.A.3-251, summarizes these results.

Existing and Existing plus Project Conditions for Projects 2-3 and 2-11 combined – PM Analysis

Under Existing conditions, for the PM peak hour, this intersection operates at LOS D with 52.2 seconds of delay. There are no lane configuration changes to the study intersection under Existing plus Project conditions compared to Existing conditions. Hence, there would be no change in LOS or delay for the Church Street/Market Street/14th Street intersection for Existing plus Project conditions. Therefore, under Existing plus Project conditions, Option 2 of Project 2-3 and Project 2-11 combined would not cause a significant impact to the Church Street/Market Street/14th Street intersection. Table V.2-21 on p. V.A.3-252, summarizes these results.

Existing and Existing plus Project Conditions for Project 2-3– PM Analysis

Under Existing conditions for project 2-3 Option 2, for the PM peak hour, this intersection operates at LOS D with 52.2 seconds of delay. There are no lane configuration changes to the study intersection under Existing plus Project conditions compared to Existing conditions. Hence, there would be no change in LOS or delay for the Church Street/Market Street/14th Street intersection for Existing plus Project conditions. Therefore, under Existing plus Project conditions, Project 2-3 Option 2 would not cause a significant impact to the Church Street/Market Street/14th Street intersection, as shown on Table V.2-21, p. V.A.3-252.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-3 and 2-11 combined – AM Analysis

The Church Street/Market Street/14th Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions for the AM peak hour. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; as a result, there will be no change in LOS or delay for this intersection. Therefore, a significant impact would not occur at the Church Street/Market Street/14th Street intersection in the AM peak hour with the implementation of Option 2 of Projects 2-3 and 2-11 combined.

Since under 2025 Cumulative plus Project conditions combined Projects 2-3 and 2-11 Option 2 would not result in a significant traffic impact at the Church Street/Market Street/14th Street intersection for the AM peak hour, there would be no significant traffic impact from individual Project 2-3 Option 2 under 2025 Cumulative plus Project conditions for the AM peak hour. Table V.2-19, p. V.A.3-251, summarizes these results.

2025 Cumulative and Cumulative plus Project Conditions for Projects 2-3 and 2-11 combined – PM Analysis

The Church Street/Market Street/14th Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. The Church Street/Market Street/14th Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection as shown on Table V.2-22 on p. V.A.3-253. Thus a significant impact would not occur at the Church Street/Market Street/14th Street intersection with the implementation of Option 2 of Project 2-3 and Project 2-11 combined.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-3 – PM Analysis

Under 2025 Cumulative conditions for the PM peak hour, this intersection operates at LOS D with 52.2 seconds of delay. There are no lane configuration changes to the study intersection under 2025 Cumulative plus Project conditions compared to 2025 Cumulative conditions. Hence, there would be no change in LOS or delay for the Church Street/Market Street/14th Street intersection for 2025 Cumulative plus Project conditions. Therefore, under 2025 Cumulative plus Project conditions, Project 2-3 Option 2 would not cause a significant impact to the Church Street/Market Street/14th Street intersection. Table V.2-20, p. V.A.3-252, summarizes these results.

Significant Impact TR-P2-3a (Projects 2-3 and 2-11 combined):

The intersection of Church Street/Market Street/14th Street would operate at LOS F under Existing plus Project conditions for Option 1 of combined Projects 2-3 and 2-11.

Significant Impact TR-P2-3b: (Projects 2-3 and 2-11 combined):

The intersection of Church Street/Market Street/14th Street would operate at LOS F under 2025 Cumulative plus Project conditions for combined Projects 2-3 and 2-11 Option 1.

TRANSIT

There are no transit lines on this segment of 14th Street. Therefore, there would be no transit impacts resulting from Project 2-3.

PARKING

There would be no parking changes on this segment of 14th Street under either Option 1 or Option 2. Therefore, there would be no parking impacts with implementation of either option of Project 2-3.

PEDESTRIAN

Pedestrian volumes on 14th Street are generally low. Option 1 would create a bulb-out at the northeast corner at the Market and 14th Street intersection and decrease the crossing distance for pedestrians at the crosswalk. Therefore, there would be no significant pedestrian impacts with implementation of Project 2-3 Option 1.

Option 2 would have no changes in sidewalk width or crosswalk layout. Therefore, there would be no pedestrian impacts with implementation of Project 2-3 Option 2.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. Therefore, neither Option 1 nor Option 2 of Project 2-3 would result in a significant impact to bicyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

There are several businesses on the south side of 14th and Market Streets, but there are no on-street yellow commercial freight loading spaces designated for delivery vehicles. Double-parked trucks were observed using the curbside travel lane immediately adjacent to the bicycle lane to make deliveries. Observation shows that there were no major conflicts because trucks typically do not encroach upon the bicycle lane. Thus, there would be no significant loading impacts with implementation of Project 2-3 for either Option 1 or Option 2.

While there are no significant loading impacts, SFMTA should consider providing curbside commercial loading zones on the south side of 14th Street and on Market Street to prevent potential conflicts between delivery vehicles and bicyclists as well as with other vehicles.

PROJECT 2-4: 17TH STREET BICYCLE LANES, CORBETT AVENUE TO KANSAS STREET, INCLUDING CONNECTIONS TO THE 16TH STREET BART STATION VIA HOFF STREET OR VALENCIA STREET AND 17TH STREET TO DIVISION STREET VIA POTRERO AVENUE

Project 2-4 would involve the installation of Class II and Class III bicycle facilities primarily on 17th Street between Corbett Avenue and Kansas Street, with several possible branches onto adjacent streets.

The primary component of Project 2-4 is located on 17th Street and is divided into three sections: West End (Corbett Avenue to Church Street), Center Segment (Church Street to Potrero Avenue), and East End (Potrero Avenue to Kansas Street).

All options for Project 2-4 would provide an enhanced connection to the 16th Street BART Station by adding a new Class III bicycle route and sharrows on Hoff Street between 16th Street and 17th Street and on 16th Street between Mission and Valencia Streets in both directions. All options for Project 2-4 would also include minor striping and signage improvements on 17th Street between Corbett Avenue and Market Street. Additionally, all options for this project would add a new bicycle route and Class II bicycle lanes on Potrero Avenue in both directions between 17th Street and Division Street by removing one travel lane in both directions between 17th Street and Division Street and adding a two-way center left turn lane between 17th Street and Alameda Street.

The West End section of 17th Street includes two design options:

Both West End options would add sharrows to the existing Class III bicycle route on eastbound 17th Street between Corbett Avenue and Eureka Street, and would add a Class II bicycle lane in the westbound direction on 17th Street between Castro Street and Corbett Avenue by removing three parking spaces.

- **Option 1**
  West end Option 1 would add sharrows to the existing Class III bicycle route in both directions on 17th Street between Castro and Hartford Streets and add Class II bicycle lanes in both directions on 17th Street between Hartford and Church Streets by narrowing travel lanes. West End Option 1 would remove approximately two parking spaces on each side of 17th Street near Church Street.

- **Option 2**
  West End Option 2 would move the existing westbound segment of existing Bicycle Route #40 on 17th Street from Sanchez to Market Streets onto a new proposed route in the northbound direction on Sanchez Street from 17th to 16th Streets, and in the

westbound direction on 16th Street from Sanchez to Market Streets. West End Option 2 would add sharrows on these segments of Sanchez and 16th Streets. West End Option 2 would add a westbound Class II bicycle lane on 17th Street between Church and Sanchez Streets, and would add sharrows in the eastbound direction on the existing 17th Street Class III bicycle route between Sanchez Street and Church Street. West End Option 2 would remove approximately two parking spaces on the north side of 17th Street near Church Street.

The Center Segment of 17th Street includes two design options:

- **Option 1**
  Center Segment Option 1 would add Class II bicycle lanes on 17th Street in both directions between Church Street and Potrero Avenue. Center Segment Option 1 would not involve removing any travel lanes or parking between Church Street and Harrison Street.

- **Option 2**
  Center Segment Option 2 would add a Class II bicycle lane in the westbound direction between Harrison Street and Church Street, and add sharrows in the eastbound direction on the existing Class III bicycle route between Church Street and Harrison Street. Center Segment Option 2 would not involve removing any travel lanes or parking between Church Street and Harrison Street.

Both Center Segment Options 1 and 2 would add Class II bicycle lanes on 17th Street between Harrison Street and Potrero Avenue in both directions by narrowing travel lanes and by removing approximately 49 parking spaces on the north side of 17th Street. Some parking spaces would be added on adjacent streets by converting parallel parking to perpendicular parking.

The East End section of 17th Street includes two design options:

- **Option 1**
  East End Option 1 would add Class II bicycle lanes on 17th Street in both directions between Kansas Street and Potrero Avenue by removing approximately 37 parking spaces on the south side of 17th Street. East End Option 1 would also add Class II bicycle lanes on Kansas Street in both directions between 16th and 17th Streets by narrowing travel lanes.

- **Option 2**
  East End Option 2 would move existing Bicycle Route 40 off of 17th Street between Kansas Street and Potrero Avenue onto Potrero Avenue between 16th Street and 17th Street, and onto 16th Street between Kansas Street and Potrero Avenue. East End Option 2 would add bicycle lanes on 16th Street in both directions between Kansas Street and Potrero Avenue by removing one westbound travel lane between San Bruno Avenue

and Potrero Avenue. On the eastbound 16th Street approach to Potrero Avenue, East End Option 2 would establish a "Right Lane Must Turn Right Except for Muni" regulation.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour. Three study intersections are included for the PM Peak Hour for Project 2-4. Tables V.2-23, V.2-24, V.2-25, and V.2-26, on pp. V.A.3-262 and V.A.3-263 summarize these results.

Intersection 20: Potrero Avenue/17th Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 22.8 seconds of delay. The Potrero Avenue/17th Street intersection would continue to operate satisfactorily at LOS C, with 22.8 seconds of delay under Existing plus Project conditions. This is due to the fact that there are no lane configuration adjustments to the study intersection under Existing plus Project conditions compared to Existing conditions. Hence, there would be no change in LOS or delay at this intersection. Therefore, a significant impact would not occur at Potrero Avenue/17th Street intersection with the implementation of Project 2-4 Option 1 for Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions
Under 2025 Cumulative conditions, for the PM peak hour, this intersection would operate at LOS D with 40.3 seconds of delay. There are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions, compared to 2025 Cumulative conditions. Hence, the Potrero Avenue/17th Street intersection would continue to operate satisfactorily at LOS D, with 40.3 seconds of average delay under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at Potrero Avenue/17th Street intersection with the implementation of Project 2-4 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions for Project
Under Existing conditions, this intersection operates at LOS C with 22.8 seconds of delay. The Potrero Avenue/17th Street intersection would also operate satisfactorily at LOS C, with 22.8 seconds of delay under Existing plus Project conditions. There are no lane configuration adjustments to the study intersection under Existing plus Project

TABLE V.2-23
CLUSTER 2 - PROJECTS 2-4 AND 2-6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR 10TH STREET/BRANNAN STREET/POTRERO AVENUE/DIVISION STREET EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

Existing		Existing plus Project Option 1				Existing plus Project Option 2			
		Project 2-4		Combined Projects 2-4 and 2-6		Project 2-4		Combined Projects 2-4 and 2-6	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
72.0	E	73.3	E	78.7	E	73.3	E	73.3	E

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-24
CLUSTER 2 – PROJECT 2-4 [c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS_b	Average Delay[a]	LOS[b]
20.	Potrero Avenue/17th Street	22.8	C	22.8	C	22.8	C
21.	10th Street/Brannan Street/ Potrero Avenue/Division Street[c]	**72.0**	**E**	**78.7**	**E**	**73.3**	**E**
22.	Potrero Avenue/16th Street	19.5	B	20.2	C	**69.9**	**E**

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for combined impacts for Projects 2-4 and 2-6.

TABLE V.2-25
CLUSTER 2 – PROJECTS 2-4 AND 2-6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR 10TH STREET/BRANNAN STREET/POTRERO AVENUE/DIVISION STREET 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

2025 Cumulative		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
		Project 2-4		Combined Projects 2-4 and 2-6		Project 2-4		Combined Projects 2-4 and 2-6	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	**F**	>80	**F**	>80	**F**	>80	**F**	>80	**F**

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-26
CLUSTER 2 – PROJECT 2-4 [c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
20.	Potrero Avenue/17th Street	40.3	D	40.3	D	40.3	D
21.	10th Street/Brannan Street/Potrero Avenue/Division Street[c]	>80	**F**	>80	**F**	>80	**F**
22.	Potrero Avenue/16th Street	>80	**F**	>80	**F**	>80	**F**

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for combined impacts for Projects 2-4 and 2-6.

conditions, compared to Existing conditions. Hence, there would be no change in LOS or delay for this intersection. Therefore, a significant impact would not occur at Potrero Avenue/17th Street intersection with the implementation of Project 2-4 Option 2 for Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions
Under 2025 Cumulative conditions, for the PM peak hour, this intersection would operate at LOS D with 40.3 seconds of delay. There are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions, compared to 2025 Cumulative conditions. Hence, the Potrero Avenue/17th Street intersection would continue to operate satisfactorily at LOS D, with 40.3 seconds of delay under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at Potrero Avenue/17th Street intersection with the implementation of Project 2-4 Option 2.

Intersection 21: 10th Street/Brannan Street/Potrero Avenue/Division Street

The 10th Street/Brannan Street/Potrero Avenue/Division Street intersection is common to Projects 2-4 and 2-6 within the Cluster 2 area. For Project 2-4, under both Option 1 and Option 2, a northbound through lane is removed. For Project 2-6, under Option 1, the eastbound shared through left-turn lane is removed. However, for Project 2-6, Option 2 has the same lane configuration as Existing (No Project) conditions. The analysis below reflects the combined impact of implementing Projects 2-4 and 2-6 at this intersection. The impacts resulting from the implementation of individual Project 2-4 follows the discussion of the combined impacts.

- **Option 1**

Existing and Existing plus Project Conditions for Projects 2-4 and 2-6 combined
Under Existing conditions, for the PM peak hour, this intersection operates at LOS E. The 10th Street/Brannan Street/Potrero Avenue/Division Street intersection would continue to operate unsatisfactorily at LOS E, under Existing plus Project conditions for the PM peak hour. The eastbound lane configuration would be modified from a shared through left turn lane and a shared through right turn lane to one shared through-left-right turn lane. In addition, one northbound through lane would be removed. Due to the reduction in capacity in the eastbound and northbound approaches, there would be an increase in delay for this intersection. Because the eastbound critical movement at 10th Street/Brannan Street/Potrero Avenue/Division Street either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P2-4a) would occur at the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection with implementation of Option 1 of Projects 2-4 and 2-6 combined.

Existing and Existing plus Project Conditions for Project 2-4

Under Existing conditions for the PM peak hour, this intersection operates at LOS E. The 10th Street/Brannan Street/Potrero Avenue/Division Street intersection would continue to operate satisfactorily at LOS E under Existing plus Project conditions for the PM peak hour. The northbound through lane would be removed under Existing plus Project conditions. No other lane configuration changes are proposed as part of Project 2-4 at this intersection. Since there would be no change to the LOS or delay for the southbound critical movements at this intersection, a significant impact would not occur at the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection with the implementation of Project 2-4 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-4 and 2-6 combined

Under 2025 Cumulative conditions, for the PM peak hour, this intersection operates at LOS F. The 10th Street/Brannan Street/Potrero Avenue/Division Street intersection would continue to operate unsatisfactorily at LOS F, under 2025 Cumulative plus Project conditions for the PM peak hour. The eastbound lane configuration would be modified from a shared through left turn lane and a shared through right turn lane to one shared through-left-right turn lane. In addition, one northbound through lane would be removed. Due to the reduction in capacity in the eastbound and northbound approaches, there would be an increase in delay for this intersection. Deterioration of the eastbound critical movement at 10th Street/Brannan Street/Potrero Avenue/Division Street for Existing plus Project to LOS F relative to Existing Conditions, is determined a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-4b) would occur at the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection with implementation of Option 1 of Projects 2-4 and 2-6 combined.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-4

Under 2025 Cumulative conditions for the PM peak hour, this intersection operates at LOS F with more than 80 seconds of delay. The 10th Street/Brannan Street/Potrero Avenue/Division Street intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions for the PM peak hour. The northbound through lane would be removed under Existing plus Project conditions. No other lane configuration changes are proposed as part of Project 2-4 at this intersection. Since there would be no change to the LOS or V/C ratios for the critical movements at this intersection relative to 2025 Cumulative conditions, a significant impact would not occur at the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection with the implementation of Project 2-4 Option 1.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 2-4 and 2-6 combined
Under Existing conditions, for the PM peak hour, this intersection operates at LOS E. The northbound through lane would be removed under Existing plus Project conditions. However, there would be no change in the LOS for the eastbound critical movements at this intersection. Therefore, under Existing plus Project conditions, the implementation of Option 2 of combined Projects 2-4 and 2-6 would not cause a significant impact to the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection. Table V.2-23, p. V.A.3-262, summarizes these results.

Existing and Existing plus Project Conditions for Project 2-4
Under Existing conditions, for the PM peak hour, this intersection operates at LOS E. The northbound through lane would be removed under Existing plus Project conditions. However, there would be no change in the LOS for the southbound critical movements at this intersection relative to Existing conditions. Therefore, under Existing plus Project conditions, the implementation of Project 2-4 Option 2 would not cause a significant impact to the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection. Table V.2-24, p. V.A.3-262, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-4 and 2-6 combined
Under 2025 Cumulative conditions, for the PM peak hour, this intersection operates at LOS F. The northbound through lane would be removed under 2025 Cumulative plus Project conditions. However, there would be no change in the LOS for the eastbound critical movements at this intersection relative to 2025 Cumulative conditions. Therefore, under 2025 Cumulative plus Project conditions, the implementation of Option 2 of Project 2-4 and Project 2-6 combined would not cause a significant impact to the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection. Table V.2-25, p. V.A.3-263, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-4
Under 2025 Cumulative conditions for the PM peak hour, this intersection operates at LOS F. The northbound through lane would be removed under 2025 Cumulative plus Project conditions. However, there would be no change in the LOS for the critical movements at this intersection relative to 2025 Cumulative conditions. Therefore, under 2025 Cumulative plus Project conditions, the implementation of Project 2-4 Option 2 would not cause a significant impact to the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection. Table V.2-25, p. V.A.3-263, summarizes these results.

Intersection 22: Potrero Avenue/16th Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS B with 19.5 seconds of delay. The Potrero/16th Street intersection would operate satisfactorily at LOS C, with 20.2 second of delay under Existing plus Project conditions. The northbound lane configuration would be modified from one shared through-left turn lane, one through lane, and one shared through-right turn lane to one exclusive left-turn lane, one through lane, and one shared through-right turn lane. In addition, the southbound lane configuration would be modified from one shared through-left turn lane, one through lane, and one shared through-right turn lane to one exclusive left-turn lane, one through lane, and one shared through-right turn lane. Due to the lane configuration changes in the northbound and southbound direction, there would be an increase in delay along these approaches. The intersection would increase by 0.7 second (from 19.5 to 20.2 seconds) and the LOS deteriorates from LOS B to LOS C, compared to Existing conditions. However, the study intersection would continue to operate at an acceptable LOS; therefore Project 2-4 Option 1 would not a cause a significant impact to the Potrero Avenue/16th Street intersection under Existing plus Project conditions. Table V.2-24, p. V.A.3-262, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Potrero Avenue/16th Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions for the PM peak hour. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Since the eastbound and westbound critical movements at Potrero Avenue/16th Street would improve and do not deteriorate in LOS compared to 2025 Cumulative conditions, a significant impact would not occur at the Potrero Avenue/16th Street intersection with the implementation of Project 2-4 Option 1.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS B with 19.5 seconds of delay. The Potrero/16th Street intersection would operate unsatisfactorily at LOS E, with 69.9 seconds of delay under Existing plus Project conditions. The northbound lane configuration would be modified from one shared through-left turn lane, one through lane, and one shared through-right turn lane to one exclusive left-turn lane, one through lane, and one shared through-right turn lane. The southbound lane configuration would be modified from one shared through-left turn

lane, one through lane, and one shared through-right turn lane to one exclusive left-turn lane, one through lane, and one shared through-right turn lane. The eastbound lane configuration would be modified from one shared through-left turn lane and one shared through-right turn lane to one shared through-left turn lane and one exclusive right-turn lane. Finally, the westbound lane configuration would be modified from one shared through-left turn lane and one shared through-right turn lane to one shared left-through-right turn lane. Due to the reduction in capacity in the northbound, southbound and westbound approaches, there would be an increase in delay along these approaches. Because the southbound and westbound critical movements at Potrero Avenue/16th Street deteriorate or would operate at an unacceptable LOS E, with more than 80 seconds of delay under Existing plus Project conditions, a significant impact would (Significant Impact TR-P2-4c) occur at the Potrero Avenue/16th Street intersection with the implementation of Project 2-4 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Potrero Avenue/16th Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions for the PM peak hour. Deterioration of the northbound and westbound critical movements at Potrero Avenue/16th Street for Existing plus Project to LOS E relative to Existing Conditions, is determined a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-4d) would occur at the Potrero Avenue/16th Street intersection for 2025 Cumulative plus Project conditions with implementation of Project 2-4 Option 2 as shown on Table V.2-26, p. V.A.3-263.

Significant Impact TR-P2-4a (Projects 2-4 and 2-6 combined):

The intersection of 10th Street/Brannan Street/Potrero Avenue/Division Street would operate at LOS E under Existing plus Project conditions for Option 1 of combined Projects 2-4 and 2-6.

Significant Impact TR-P2-4b: (Projects 2-4 and 2-6 combined):

The intersection of 10th Street/Brannan Street/Potrero Avenue/Division Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1 of Projects 2-4 and 2-6 combined.

Significant Impact TR-P2-4c:

The intersection of Potrero Avenue/16th Street would operate at LOS E under Existing plus Project conditions for Project 2-4 Option 2.

Significant Impact TR-P2-4d:

The intersection of Potrero Avenue/16th Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-4 Option 2.

TRANSIT

West End (Corbett Avenue to Church Street)

Muni bus line 37 runs in both directions along 17th Street between Corbett Avenue and Diamond Street, with approximately four buses per hour each way during the AM and PM peak periods; there are no bus stops in this segment. The F-Market streetcar line runs westbound between Castro and Noe Streets with approximately 10 cars per hour each way during the AM and PM peak periods. There is one westbound transit stop at the median on the nearside of Castro Street. There are no other transit services along the 17th Street portion of Project 2-4. Both streetcar and bicycle volumes are low and the proposed Class II bicycle lane would not encroach upon the streetcar right-of-way. Therefore, there would be no conflict between bicyclists and streetcars.

Center Segment (Church Street to Potrero Avenue)

No transit service operates along this segment.

East End (Potrero Avenue to Kansas Street

Muni bus lines 22 and 53 run in both directions along 16th Street between Potrero Avenue and Kansas Streets with approximately eight buses per hour each way during the AM peak period and approximately 11 buses per hour each way during the PM peak period.

Potrero Avenue

Muni bus lines 9 and 33 and SamTrans bus line 292 run on Potrero Avenue between 17th Street and Division Street with approximately 16 buses per hour each way with bus stops at the major intersections.

16th Street

Muni bus lines 22 and 53 operate on 16th Street between Valencia and Mission Streets with approximately 10 buses per hour eastbound. Bus stops exist on 16th Street at both Valencia and Mission Streets.

Transit has limited operation on the roadway of Project 2-4 with either Option 1 or Option 2 including only segments of 16th Street (between Valencia and Mission Streets and between Potrero Avenue and Kansas Street), 17th Street (between Noe and Castro Streets and between Diamond and Corbett Streets), and Potrero Avenue (between 17th and Division Streets). Bicycle and transit volumes are low to moderate within these segments. Project 2-4 with either Option 1 or Option 2 would not change the location or configuration of transit stops or the interactions between bicycles and transit. Transit delay resulting from changes in roadway configuration resulting from Project 2-4 is discussed below.

Project 2-4 shares a common intersection (Intersection 21: 10th Street/Brannan Street/Potrero Avenue/Division Street) with Project 2-6: Division Street Bicycle Lanes, 9th Street to 11th Street. The transit delay analysis below (Projects 2-4 and 2-6 combined) reflects the combined impact of Projects 2-4 and 2-6 modifications to the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection on transit delay. The impacts resulting from the implementation of Project 2-4 (Project 2-4) without Project 2-6 modifications to the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection follow.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 2-4 and 2-6 combined
  For Existing plus Project conditions, combined Projects 2-4 and 2-6 Option 1 would not involve a reduction in the number of travel lanes or changes to bus stops along 16th or 17th Streets; impacts to bus and bicycle interactions due to the installation of sharrows and narrowed travel lanes would be minimal. Thus, combined Projects 2-4 and 2-6 Option 1 would not have any impacts on travel time for transit lines operating along either 16th or 17th Streets (Muni transit lines 22, 37, 53, and F-Market). Option 1 would remove a travel lane in both directions on Potrero Avenue between 17th and Division Streets potentially affecting operation of Muni bus lines 9 and 33 and SamTrans bus line 292. However, total calculated delay to transit on Potrero Avenue would be less than 10 seconds per transit vehicle. Therefore, there would be no significant transit impacts with implementation of combined Projects 2-4 and 2-6 Option 1 under Existing plus Project conditions.

  Existing and Existing plus Project Conditions for Project 2-4
  Since the transit delay for Option 1 of Projects 2-4 and 2-6 combined would not result in a significant transit impact, as discussed above, there would be no significant transit impacts with implementation of individual Project 2-4 Option 1 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-4 and 2-6 combined

For 2025 Cumulative conditions combined Project 2-4 and 2-6 Option 1 would not involve a reduction in the number of travel lanes or changes to bus stops along 16th or 17th Streets; impacts to bus and bicycle interactions due to the installation of sharrows and narrowed travel lanes would be minimal. Thus, Option 1 would not have any impacts on transit travel time or transit/bicycle interactions for transit lines operating along either 16th or 17th Streets (Muni transit lines 22, 37, 53, and F-Market). Option 1 would add approximately 58 seconds of delay northbound with no change in delay southbound in the PM peak period for Muni bus line 33 on Potrero Avenue. Muni bus line 9 and SamTrans bus line 292, also operating on Potrero Avenue, would experience no changes in delay. Therefore, there would be no significant transit impacts with implementation of Option 1 of Projects 2-4 and 2-6 combined under 2025 Cumulative plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-4

Since the transit delay for Option 1 of Project 2-4 Option 1, since the transit delay for Projects 2-4 and 2-6 combined would not result in a significant transit impact, as discussed above, there would be no significant transit impacts with implementation of individual Project 2-4 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 2-4 and 2-6 combined

For Existing plus Project conditions combined Projects 2-4 and 2-6, Option 2 would remove one westbound travel lane along 16th Street between Potrero and San Bruno Avenues. This would add delay of 19 seconds eastbound and 213 seconds (3.6 minutes) westbound on Muni bus lines 22 and 53 in the PM peak period. The headways for Muni bus lines 22 and 53 in the PM peak period are 7 and 30 minutes, respectively. For Muni bus lines 22 and 53, the total added delay of 232 seconds (3.9 minutes) would be less than the transit delay threshold of six minutes. Option 2 would include the same modifications to Potrero Avenue as was described above for Option 1. There would be no added delay to transit on Potrero Avenue for Muni bus lines 9 and 33 and SamTrans bus line 292. Therefore, a significant transit impact would not occur with the implementation of combined Projects 2-4 and 2-6 Option 2 under Existing plus Project conditions.

Existing and Existing plus Project Conditions for Project 2-4

Since the transit delay for combined Projects 2-4 and 2-6 Option 2 would not result in a significant transit impact, as discussed above, there would be no significant transit impacts with implementation of individual Project 2-4 Option 2 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-4 and 2-6 combined

For Cumulative plus Project conditions, combined Project 2-4 and 2-6 Option 2 would remove one westbound travel lane along 16th Street between Potrero and San Bruno Avenues. Option 2 add no delay on Muni bus lines 22 and 53 eastbound but would and add 223 seconds (3.7 minutes) of delay westbound in the PM peak period. The headways for Muni bus lines 22 and 53 in the PM peak period are 7 and 30 minutes, respectively. For Muni bus lines 22 and 53, the total added delay of 223 seconds (3.7 minutes) would be less than the transit delay threshold of six minutes. Option 2 would add approximately 225 seconds (3.8 minutes) of delay northbound with a reduction in delay of 240 seconds southbound for Muni bus line 33 resulting in a total reduction in transit delay. Option 2 would add 226 seconds (3.8 minutes) of delay northbound and 210 seconds (3.5 minutes) southbound for Muni bus line 9 and SamTrans bus line 292. The headways for Muni bus line 9 and SamTrans bus line 292 in the PM peak period are 8 and 30 minutes, respectively; the total added delay of 436 seconds (7.3 minutes) would be greater than the transit delay threshold of six minutes. Therefore, a significant transit impact (Significant Impacts TR-P2-4e and TR-P2-4f) would occur with the implementation of combined Projects 2-4 and 2-6 Option 2 under 2025 Cumulative plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-4

For 2025 Cumulative plus project conditions, Project 2-4 Option 2, the intersection configuration modifications affecting transit service for shared Intersection 21 would be the same for Project 2-4 as with Projects 2-4 and 2-6 combined. Consequently, impacts to transit service would be the same as that discussed above for Projects 2-4 and 2-6 combined. Therefore, a significant transit impact (Significant Impacts TR-P2-4g and TR-P2-4h) to Muni bus line 9 and SamTrans bus line 292 would result from the implementation of individual Project 2-4 Option 2 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P2-4e (Projects 2-4 and 2-6 combined):

Muni bus line 9 would experience significant delays with implementation of Option 2 of the combined Projects 2-4 and 2-6 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P2-4f (Projects 2-4 and 2-6 combined):

SamTrans bus line 292 would experience significant delays with implementation of Option 2 of the combined Projects 2-4 and 2-6 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P2-4g: Muni bus line 9 would experience significant delays under 2025 Cumulative plus Project conditions for individual Project 2-4 Option 2.

Significant Impact TR-P2-4h: SamTrans bus line 292 would experience significant delays under 2025 Cumulative plus Project conditions for individual Project 2-4 with Option 2.

PARKING

There would be no significant parking impacts between Corbett and Church Streets (west end) because there would only be a loss of only five parking spaces under either Option 1 or Option 2 of Project 2-4. There would be no parking impacts between Church and Harrison Streets (western portion of the center segment) because there would be no change in the number of parking spaces under either Option 1 or Option 2 of Project 2-4.

For the remaining segments of Project 2-4, Option 1 would remove 86 on-street parking spaces and Option 2 would remove 49 on-street parking spaces. However, some parking spaces would be added on adjacent streets by converting parallel parking to perpendicular parking. Parking occupancy in the Project 2-4 area is generally high. In San Francisco, parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact under CEQA, but rather a social effect. The loss of parking may cause potential indirect physical effects, which would include cars circling and looking for a parking space in neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to some drivers, aware of constrained parking conditions in a given area, shifting travel modes. Hence, any secondary environmental impacts that may result from a shortfall in parking would be minor, and any net reduction in on-street parking supply would not result in significant parking impacts. Therefore, there would be no significant parking impacts with the implementation of either Option 1 or Option 2 of Project 2-4.

PEDESTRIAN

Pedestrian volumes are generally low to moderate, but could be high near major trip generators, such as in the vicinity of the neighborhood commercial districts at Castro and Mission Streets. There would be no changes in sidewalk width or crosswalk layout, and the interactions between pedestrians and bicyclists would not change as a result of either Option 1 or Option 2. Therefore, there would be no significant pedestrian impacts with implementation of Project 2-4.

BICYCLE

Bicycle volumes along the east end and mid-section of 17th Street are generally moderate, but are low west of Castro Street.

Under Option 1, there could be potential safety issues with bicyclists in the segment of 17th Street between Hartford and Noe Streets because the proposed Class II bicycle lane is close to the Muni tracks and next to a narrow (seven foot wide) parking lane. While there are tracks east of Noe Street towards Pond Street, these tracks are used for temporary storage only and there would be no conflict east of Noe Street. While this situation could pose a hazard for bicyclists, the hazard is no different from existing conditions. The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. In addition, the installation of sharrows would increase motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone.' Therefore, Project 2-4 Option 1 would not result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

Under Option 2 segments of both Class II bicycle lanes and sharrows would be provided. In comparison to Option 1, eastbound bicyclists would have more sharrow treatments and less Class II bicycle lanes compared to Option 1. The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. In addition, the installation of sharrows would increase motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone.' Therefore, Project 2-4 Option 2 would not result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of 17th Street has a mixture of residential, commercial, and some industrial uses; there is also one school located along Project 2-4. No double-parked trucks or significant loading needs were observed[14] along 17th Street with the exception of the retail businesses in the Mission District and the industrial area between Treat Street and South Van Ness Avenue. In these areas, occasional double-parked trucks were observed. The segment of 16th Street between Valencia and Mission Streets and between Potrero Avenue and Kansas Street also has retail uses on both sides; occasional double parking was observed. Since the proposed bicycle improvements would not affect the existing loading arrangement for the corridor, there would

[14] Field surveys were conducted by CHS Consulting on Thursday, August 23, 2007 during the midday.

be no significant loading impacts with the implementation of Project 2-4 with either Option 1 or Option 2.

PROJECT 2-5: BEALE STREET BICYCLE LANE, BRYANT STREET TO FOLSOM STREET

Project 2-5 would involve the installation of a new route, a Class II bicycle lane, in the southbound direction on Beale Street between Folsom Street and Bryant Street.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

There are no transit lines on this segment of Beale Street. Therefore, there would be no transit impacts as a result of Project 2-5.

PARKING

There would be no changes in parking layout or in the number of parking spaces in this segment. Therefore, there would be no parking impacts as a result of Project 2-5.

PEDESTRIAN

Pedestrian volumes are generally low, and there would be no changes in sidewalk width or crosswalk layout. The interactions between pedestrians and bicyclists would not change as a result of Project 2-5. Therefore, there would be no pedestrian impacts as a result of Project 2-5.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. Therefore, Project 2-5 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

Loading demand is generally low, and there are sufficient off-street loading areas to accommodate the US Postal Service delivery vehicles on the east side of Beale Street between Folsom Street and the Harrison Street overpass. These delivery vehicles typically back into the loading zone throughout the day and could potentially cause conflicts with bicyclists as well as other vehicles. Because no bicycle improvements are recommended in the northbound

direction, the current interactions between delivery vehicles, bicyclists, and traffic would not change as a result of Project 2-5.

The west side of Beale Street has residential and retail uses, and delivery trucks occasionally double-park for loading. The southbound travel lane is approximately 17 feet wide next to on-street parking, so when delivery trucks are double-parked, vehicles and bicyclists would pass to the left by encroaching on the opposing travel lane.

The addition of the southbound Class II bicycle lane would not change the current loading condition and there would be no loss of on-street loading spaces. Therefore, there would be no significant loading impacts as a result of Project 2-5.

PROJECT 2-6: DIVISION STREET BICYCLE LANES, 9TH STREET TO 11TH STREET

There are two options for this segment of Division Street.

- **Option 1**
  Option 1 would add a Class II bicycle lane and remove one travel lane in both directions between 9th and 10th Streets. This option would remove approximately 20 total parking spaces between 10th and 11th Streets and also narrow travel lanes between 9th and 10th Streets.

- **Option 2**
  Option 2 would remove approximately 65 total parking spaces between 10th and 11th Streets, narrow travel lanes between 9th and 10th Streets, and add Class II bicycle lanes in both directions between 9th and 11th Streets.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour. These results are summarized in Table V.2-27, p. V.A.3-277, Table V.2-28, p. V.A.3-277, Table V.2-29, p. V.A.3-278, and Table V.2-30, p. V.A.3-278. Two study intersections are included for the PM peak hour for Project 2-6.

Intersection 21: 10th Street/Brannan Street/Potrero Avenue/Division Street

The 10th Street/Brannan Street/Potrero Avenue/Division Street intersection is common to Projects 2-4 and 2-6 within the Cluster 2 area. The discussion of the combined project impacts was previously presented under Project 2-4 and will not be repeated here.

TABLE V.2-27
CLUSTER 2 – PROJECT 2-6 [c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
21.	10th Street/Brannan Street/Potrero Avenue/Division Street [c]	72	E	78.7	E	73.3	E
54.	11th Street/Bryant Street/Division Street	32.4	C	>80	F	32.4	C

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for 10th Street/Brannan Street/ Potrero Avenue/Division Street for combined impacts of Projects 2-4 and 2-6.

TABLE V.2-28
CLUSTER 2 – PROJECT 2-6 [c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
21.	10th Street/Brannan Street/Potrero Avenue/Division Street [c]	>80	F	>80	F	>80	F
54.	11th Street/Bryant Street/Division Street	75.3	E	>80	F	75.3	E

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for impacts for combined Projects 2-4 and 2-6.

TABLE V.2-29
CLUSTER 2 – PROJECTS 2-6 AND 2-4
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR 10TH STREET/BRANNAN STREET/POTRERO AVENUE/DIVISION STREET EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing plus Project Option 1				Existing plus Project Option 2			
Existing		Project 2-6		Combined Projects 2-4 and 2-6		Project 2-6		Combined Projects 2-4 and 2-6	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
72.0	E	77.4	E	78.7	E	72.0	E	73.3	E

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-30
CLUSTER 2 – PROJECTS 2-6 AND 2-4
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR 10TH STREET/BRANNAN STREET/POTRERO AVENUE/DIVISION STREET 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 2-6		Combined Projects 2-4 and 2-6		Project 2-6		Combined Projects 2-4 and 2-6	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	F	>80	F	>80	F	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

- **Option 1**

Existing and Existing plus Project Conditions for Projects 2-4 and 2-6 combined
Please see the discussion of the combined project impacts under Project 2-4.

Existing and Existing plus Project Conditions for Project 2-6
Under Existing conditions for the PM peak hour, this intersection operates at LOS E. The 10th Street/Brannan Street/Potrero Avenue/Division Street intersection would continue to operate satisfactorily at LOS E under Existing plus Project conditions for the PM peak hour. The eastbound shared through left-turn lane would be removed under Existing plus Project conditions. No other lane configuration changes are proposed as part of Project 2-6 at this intersection. Since there would be no change to the LOS or delay for the eastbound critical movement at the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection, a significant impact would not occur at this intersection with the implementation of Project 2-6 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-4 and 2-6 combined
Please see the discussion of the combined project impacts under Project 2-4.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-6
Under 2025 Cumulative conditions for the PM peak hour, this intersection operates at LOS F. The 10th Street/Brannan Street/Potrero Avenue/Division Street intersection would continue to operate unsatisfactorily at LOS F under 2025 Cumulative plus Project conditions for the PM peak hour. The eastbound shared through left-turn lane would be removed under 2025 Cumulative plus Project conditions. No other lane configuration changes are proposed as part of Project 2-6 at this intersection. Because the eastbound critical movements at 10th Street/Brannan Street/Potrero Avenue/Division Street either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P2-6b) would occur at the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection with the implementation of Project 2-6 Option 1.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 2-4 and 2-6 combined
Please see the discussion of the combined project impacts under Project 2-4.

Existing and Existing plus Project Conditions for Project 2-6
Under Existing conditions for the PM peak hour, this intersection operates at LOS E. No lane configuration changes are proposed for this intersection under Existing plus Project conditions relative to Existing conditions. Therefore, under Existing plus Project conditions, the implementation of Project 2-6 Option 2 would not cause a significant

impact to the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection. Table V.2-29, p. V.A.3-278, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-4 and 2-6 combined

Please see the discussion of the combined project impacts under Project 2-4.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-6

Under 2025 Cumulative conditions for the PM peak hour, this intersection operates at LOS F. No lane configuration changes are proposed for this intersection under 2025 Cumulative plus Project conditions relative to Existing conditions. Therefore, under 2025 Cumulative plus Project conditions, the implementation of Project 2-6 Option 2 would not cause a significant impact to the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection under 2025 Cumulative plus Project conditions. Table V.2-30, p. V.A.3-278, summarizes these results.

Intersection 54: 11th Street/Bryant Street/Division Street

- **Option 1**

Existing and Existing plus Project Conditions

Under Existing conditions, for the PM peak hour, this intersection operates at LOS C with 32.4 seconds of delay. The 11th Street/Bryant Street/Division Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions. The westbound lane configuration would be modified from one through lane and one shared through-right turn lane to one shared through-right turn lane. Due to the reduction in capacity in the westbound approach, there would be an increase in delay for this intersection. The intersection LOS would deteriorate from LOS C to LOS F. Because the westbound critical movement at 11th Street/Bryant Street/Division Street intersection would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P2-6a) would occur at 11th Street/Bryant Street/Division Street intersection with the implementation of Project 2-6 Option 1, as shown on Table V.2-27, p. V.A.3-277.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 11th Street/Bryant Street/Division Street intersection would operate unsatisfactorily at LOS E, with 75.3 seconds of average delay under 2025 Cumulative conditions for the PM peak hour. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Deterioration of the westbound critical movement at 11th Street/Bryant Street/Division Street for Existing plus Project to LOS F relative to Existing Conditions, is determined a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions.

Therefore, a significant impact (Significant Impact TR-P2-6c) would occur at 11th Street/Bryant Street/Division Street intersection with the implementation of Project 2-6 Option 1 under 2025 Cumulative plus Project conditions as shown on Table V.2-28, p. V.A.3-277.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, for the PM peak hour, this intersection operates at LOS C with 32.4 seconds of delay. The 11th Street/Bryant Street/Division Street intersection would operate satisfactorily at LOS C, with 32.4 seconds of delay under Existing plus Project conditions. There are no lane configuration adjustments to the study intersection under Existing plus Project conditions compared to Existing conditions. As a result, there would be no change in LOS or delay for this intersection. Therefore, Project 2-6 Option 2 would not cause a significant impact to the 11th Street/Bryant Street/Division Street intersection for Existing plus Project conditions as shown on Table V.2-27, p. V.A.3-277.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 11th Street/Bryant Street/Division Street intersection would operate unsatisfactorily at LOS E under 2025 Cumulative conditions for the PM peak hour. The 11th Street/Bryant Street/Division Street intersection would continue to operate unsatisfactorily at LOS E under 2025 Cumulative plus Project conditions for the PM peak hour. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at 11th Street/Bryant Street/Division Street intersection with the implementation of Project 2-6 Option 2 under 2025 Cumulative plus Project conditions as shown on Table V.2-28, p. V.A.3-277.

Significant Impact TR-P2-6a:

The intersection of 10th Street/Brannan Street/Potrero Avenue/Division Street would operate at LOS F under Existing plus Project conditions for Project 2-6 Option 1.

Significant Impact TR-P2-6b:

The intersection of 10th 11th Street/Bryant Street/Division Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-6 Option 1.

Significant Impact TR-P2-6c:

The intersection of 11th Street/Bryant Street/Division Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-6 Option 1.

TRANSIT

Muni bus line 9 runs in both directions along Division Street between 11th Street and Potrero Avenue, with approximately six buses per hour each way during the AM peak period and approximately eight buses per hour each way during the PM peak period. There is one eastbound Muni bus stop in this segment of Division Street located on the far side of Bryant Street. Field observations[15] indicate that there is sufficient transition distance at the intersection for Muni buses to stop parallel to the curb without protruding into the adjacent travel lane.

Changes in configuration with Project 2-6 would not affect bus/bicycle interactions at the intersections or bus stops. Bicycle volumes are relatively low to moderate and bus volumes are low so conflicts rarely occur. Muni bus line 9 buses turn right from eastbound Division Street onto southbound Potrero Avenue. Currently, through bicyclists pass these buses and other right-turning vehicles on the left. These conditions would not change with Project 2-6.

Project 2-6 shares a common intersection (Intersection 21: 10th Street/Brannan Street/Potrero Avenue/Division Street) with Project 2-4: 17th Street Bicycle Lanes, Corbett Avenue to Kansas Street, including connections to the 16th Street BART Station via Hoff Street or Valencia Street and 17th Street to Division Street via Potrero Avenue.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 2-4 and 2-6 combined
  With Option 1 at the far side of Bryant Street, in the eastbound direction, a six-foot Class II bicycle lane would be striped between the nine-foot bus stop and the 15-foot travel lane. The new dimensions, with one travel lane removal, would allow a sufficient width for bicycles to pass buses when they load and unload passengers at the buss stop.

  With Option 1, the loss of one travel lane each way would add delay in the PM peak period to Muni bus line 9 operations with approximately 208 seconds (3.5 minutes) of delay westbound and approximately 50 seconds of delay eastbound. The headway for Muni bus line 9 in the PM peak period is eight minutes. For Muni bus line 9, the total added delay of 258 seconds (4.3 minutes) would be less than the transit delay threshold of six minutes. Therefore, a significant transit impact would not occur with the implementation of combined Projects 2-4 and 2-6 Option 1 under Existing plus Project conditions.

[15] Field surveys were conducted by CHS Consulting on Thursday, August 23, 2007 during the midday.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-4 and 2-6 combined

Changes to configuration with Option 1 would be the same as discussed above for Existing plus Project conditions. Option 1 would add no delay in either the westbound or eastbound directions. Therefore, a significant transit impact would not occur with the implementation of combined Projects 2-4 and 2-6 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 2-4 and 2-6 combined

With Option 2 there would be no change in the number of travel lanes along Division Street, and therefore no changes in bus travel times. The eastbound bus stop on the far side of Bryant Street would be in the bicycle lane. When a Muni bus is stopped there, bicyclists would have to wait behind the bus until it clears the stop or would pass on the left using the general travel lane. This behavior is no different from what occurs today at this and many other locations, and would not result in bicycle/bus conflicts. Therefore, there would be no significant transit impacts with implementation of Projects 2-4 and 2-6 combined with Option 2 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-4 and 2-6 combined

With Option 2 there would be no change in the number of travel lanes along Division Street, and therefore no changes in bus travel times. Other changes to bus stops or circulation would be the same as discussed above for Existing plus Project conditions. Therefore, there would be no significant transit impacts with implementation of combined Projects 2-4 and 2-6 Option 2 under 2025 Cumulative plus Project conditions.

Since there are no significant transit impacts under Existing plus Project and 2025 Cumulative plus Project conditions for either Option 1 or Option 2 of combined Projects 2-4 and 2-6, there would be no significant transit impact from individual Project 2-6.

PARKING

Option 1 would remove approximately 20 on-street parking spaces, with 10 spaces on the north side of Division Street west of 10th Street and 10 spaces on the south side east of Bryant Street. Option 2 would remove approximately 65 on-street parking spaces on both sides of Division Street between 10th and 11th Streets at all times. Land uses along this street are mostly industrial with some commercial uses. While parking occupancy along this street is usually high during the weekday midday, it is still possible to find parking on the side streets, especially in areas south of Division Street. Parking removal with either Option 1 or Option 2 would increase parking demand in the area.

In San Francisco, parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact under CEQA, but rather a social effect. The loss of parking may cause potential indirect physical effects, which would include cars circling and looking for a parking space in neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to some drivers, aware of constrained parking conditions in a given area, shifting travel modes. Hence, any secondary environmental impacts that may result from a shortfall in parking would be minor. Therefore, any net reduction in on-street parking supply would not result in significant parking impacts. Hence, there would be no significant parking impacts with implementation of Project 2-6 with either Option 1 or Option 2.

PEDESTRIAN

Pedestrian volumes are generally low in this area, and there would be no changes in sidewalk width or crosswalk layout. The interactions between pedestrians and bicyclists would not change as a result of Project 2-6. Therefore, there would be no pedestrian impacts with implementation of either Option 1 or Option 2 of Project 2-6.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. In addition, the removal of on-street parking adjacent to the bicycle lane would have the added benefit of eliminating the hazard for 'dooring' by parked vehicles. Therefore, neither Option 1 nor Option 2 of Project 2-6 would not result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Division Street has mostly commercial and light industrial uses that have off-street loading areas and generally do not have on-street loading demands that would conflict with bicyclists or be displaced by parking removal. No double-parked trucks were observed[16] along this segment of Division Street. In addition, no yellow commercial freight loading spaces would be included with the parking removal proposed by Project 2-6. Therefore, there would be no significant loading impacts from Project 2-6 with either Option 1 or Option 2.

[16] Field surveys were conducted by CHS Consulting on Thursday, August 23, 2007 during the midday.

PROJECT 2-7: FREMONT STREET BICYCLE LANE, HARRISON STREET TO HOWARD STREET

Project 2-7 would add northbound sharrows between Harrison and Howard Streets and a southbound Class II bicycle lane between Folsom and Harrison Streets. Project 2-7 would also remove one southbound travel lane between Folsom and Harrison Streets and widen the sidewalk from 10 to 15 feet on both sides of Fremont Street.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour.

One study intersection is included for the PM peak hour for Project 2-7. Table V.2-31, p. V.A.3-285, and Table V.2-32, p. V.A.3-286, summarize these results.

Intersection 48: Fremont Street/Howard Street

The Fremont Street/Howard Street intersection is common to Projects 2-7 and 2-9 within the Cluster 2 area. For Project 2-7, the lane configuration at the intersection would remain the same as under Existing (No Project) conditions. However, for Project 2-9, the lane configuration in the westbound direction would be changed from two through lanes and an exclusive right-turn lane to one through lane and a shared through-right turn lane. Hence, Project 2-9 would reduce the capacity in the westbound direction on Howard Street for this intersection. The analysis below reflects the combined impact of implementing Projects 2-7 and 2-9 at this intersection.

TABLE V.2-31
CLUSTER 2 – PROJECTS 2-7 AND 2-9 COMBINED
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR FREMONT STREET / HOWARD STREET EXISTING AND EXISTING PLUS PROJECT CONDITIONS – WEEKDAY PM PEAK HOUR

Existing		Existing plus Project			
		Project 2-7		Combined Projects 2-7 and 2-9	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
36.5	D	36.5	D	73.9	E

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-32
CLUSTER 2 –PROJECTS 2-7 AND 2-9
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR FREMONT STREET/HOWARD STREET 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

2025 Cumulative		2025 Cumulative plus Project			
		Project 2-7		Combined Projects 2-7 and 2-9	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	F	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Existing and Existing plus Project Conditions for Projects 2-7 and 2-9 combined

Under Existing conditions for the PM peak hour, this intersection operates at LOS D with 36.5 seconds of delay. The Fremont Street/Howard Street intersection would operate unsatisfactorily at LOS E, with 73.9 seconds of delay under Existing plus Project conditions. The westbound lane configuration would be modified from two through lanes and one exclusive right-turn lane to one through lane and one shared through-right turn lane. Due to the reduction in capacity along the westbound approach, there would be an increase in delay at this intersection. The intersection delay would increase by 37.4 seconds (from 36.5 to 73.9 seconds) and the LOS would deteriorate from LOS D to LOS E. Because the northbound and westbound critical movements would either deteriorate or would operate at an unacceptable LOS E under Existing plus Project conditions, a significant impact (Significant Impact TR-P2-7a) would occur at the Fremont Street/Howard Street intersection with the implementation of combined Projects 2-7 and 2-9. Table V.2-31, p. V.A.3-285, summarizes these results.

Existing and Existing plus Project Conditions for Project 2-7

Under Existing conditions, for the PM peak hour, this intersection operates at LOS D with 36.5 seconds of delay. The Fremont Street/Howard Street intersection would continue to operate satisfactorily at LOS D with 36.5 seconds of delay under Existing plus Project conditions. There are no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, a significant impact would not occur at the Fremont

Street/Howard Street intersection with implementation of Project 2-7. Table V.2-31, p. V.A.3-285, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-7 and 2-9 combined

The Fremont Street/Howard Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions for combined Project 2-7 and 2-9, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Deterioration of the northbound and westbound critical movements at Fremont Street/Howard Street for Existing plus Project to LOS E relative to Existing conditions, is determined to be a significant impact. As a consequence a corresponding LOS deterioration is expected at this intersection for 2025 Cumulative plus Project compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-7b) would occur at the Fremont Street/Howard Street intersection with the implementation of combined Projects 2-7 and 2-9. Table V.2-32, p. V.A.3-286, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-7

The Fremont Street/Howard Street intersection would operate unsatisfactorily at LOS F with more than 80 seconds of average delay under 2025 Cumulative conditions. This intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions. Therefore, there would be no change in LOS or delay for this intersection as shown on Table V.2-32, p. V.A.3-286. Thus a significant impact would not occur at the Fremont Street/Howard Street intersection with the implementation of Project 2-7 under 2-25 Cumulative plus Project conditions.

Significant Impact TR-P2-7a (Projects 2-7 and 2-9 combined):

The intersection of Fremont Street/Howard Street would operate at LOS E under Existing plus Project conditions for combined Projects 2-7 and 2-9.

Significant Impact TR-P2-7b: (Projects 2-7 and 2-9 combined):

The intersection of Fremont Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for combined Projects 2-7 and 2-9.

TRANSIT

Transit operations on Fremont Street are limited to the one block between Folsom and Howard Streets. Along this block, Muni and Golden Gate Transit buses travel northbound. Project 2-7 would install sharrows in the northbound direction but otherwise not change the number or width of travel lanes. These improvements would also not affect the existing Muni or Golden Gate Transit bus stops. Therefore, there would be no significant impact to transit with the implementation of Project 2-7.

PARKING

There would be no changes in parking layout or the number of parking spaces in this segment. Therefore, there would be no parking impacts with implementation of Project 2-7.

PEDESTRIAN

Project 2-7 would widen the sidewalks from 10 to 15 feet wide on both sides of Fremont Street. This improvement would benefit pedestrians by providing more buffer space for increased pedestrian safety and circulation. Pedestrian volumes are generally low to moderate in this area, and the changes in the sidewalk layout would not change the current interactions between pedestrians and bicyclists. Therefore, there would be no significant pedestrian impacts with the implementation of Project 2-7.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes on the segments described above with the designation of a clear right-of-way for their use. On the other segments, the installation of sharrows would increase the motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone'. Therefore, Project 2-7 would not result in a significant impact to bicyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

On-street loading demand is typically low on this block of Fremont Street, and there would be no changes in the layout of on-street yellow commercial freight loading spaces or access to off-street loading areas. Therefore, there would be no significant loading impacts with the implementation of Project 2-7.

PROJECT 2-8: HOWARD STREET BICYCLE LANE, EXTENSION AT 9TH STREET

Project 2-8 would extend the existing westbound Class II bicycle lane approaching 9th Street by narrowing the leftmost lane and the right-turn lane. Project 2-8 would convert the shared through/right-turn lane to a through lane and convert a PM peak hour tow-away zone to a permanent right-turn only lane with the removal of approximately three on-street parking spaces on the north side of Howard Street east of 9th Street.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection, on p. V.A.3-3 of this EIR.

TRANSIT

There are no transit lines on this segment of Howard Street. Therefore, there would be no transit impacts with the implementation of Project 2-8.

PARKING

Project 2-8 would remove approximately three on-street metered parking spaces on the north side of Howard Street approaching 9th Street by changing the existing Tow-Away zone (4:00 p.m. to 6:00 p.m.) to a Tow-Away No Stopping Anytime zone. On-street parking occupancy is generally high on this segment of Howard Street but the loss of three spaces would not significantly change the parking demand or impact the behavior of drivers looking for parking. Therefore, there would be no significant parking impacts with the implementation of Project 2-8.

PEDESTRIAN

There would be no changes in sidewalk width or crosswalk layout, and the interactions between pedestrians and bicyclists would not change as a result of Project 2-8. Therefore, there would be no pedestrian impacts with the implementation of Project 2-8.

BICYCLE

The proposed Class II bicycle lane would provide a clear right-of-way for bicyclists. Bicycle circulation and safety on the bicycle lane along Howard Street east of 9th Street would be expected to be the same for this section of Howard Street. Therefore, Project 2-8 would not result in a significant impact to bicyclists but could have the beneficial effect of improving road sharing and safety for bicyclists.

LOADING

This segment of Howard Street has mostly commercial uses, and truck loading is dependent on the availability of on-street parking spaces. Project 2-8 would not remove on-street yellow commercial freight loading spaces; the loss of three metered spaces would not significantly change the parking occupancy or affect truck parking. Therefore, there would be no significant loading impacts with the implementation of Project 2-8.

PROJECT 2-9: HOWARD STREET BICYCLE LANE, THE EMBARCADERO TO FREMONT STREET

Project 2-9 would add a westbound Class II bicycle lane between The Embarcadero and Fremont Street. Project 2-9 would remove one westbound lane between Fremont and Main Streets by revoking the Tow-Away zone during the AM and PM peak periods and removing one eastbound lane between Stuart and Main Streets. Project 2-9 would also change the striping of the two eastbound lanes between Main and Spear Streets to one eastbound through and one right turn lane.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour. One study intersection is included for the PM Peak Hour for Project 2-9. Table V.2-33, p. V.A.3-290, Table V.2-34, p. V.A.3-291 summarize these results.

TABLE V.2-33
CLUSTER 2 – PROJECT 2-9
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR FREMONT STREET/HOWARD STREET EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

Existing		Existing plus Project			
		Project 2-9		Combined Projects 2-7 and 2-9	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
36.5	D	**73.9**	**E**	**73.9**	**E**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-34
CLUSTER 2 – PROJECT 2-9
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR FREMONT STREET/HOWARD STREET 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

Existing		Existing plus Project			
		Project 2-9		Combined Projects 2-7 and 2-9	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	F	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Intersection 48: Fremont Street/Howard Street

Existing and Existing plus Project Conditions for Projects 2-7 and 2-9 combined

Please see the discussion of the combined project impacts under Project 2-7.

Existing and Existing plus Project Conditions for Project 2-9

Under Existing conditions, for the PM peak hour, this intersection operates at LOS D with 36.5 seconds of delay. The Fremont Street/Howard Street intersection would operate unsatisfactorily at LOS E, with 73.9 seconds of delay under Existing plus Project conditions. The westbound lane configuration would be modified from two through lanes and one exclusive right-turn lane to one through lane and one shared through-right turn lane. Due to the reduction in capacity along the westbound approach, there would be an increase in delay at this intersection. The intersection delay would increase by 37.4 seconds (from 36.5 to 73.9 seconds) and the LOS would deteriorate from LOS D to LOS E. Because the northbound and westbound critical movements would either deteriorate or would operate at an unacceptable LOS E, with more than 55 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P 2-9a) would occur at the Fremont Street/Howard Street intersection with the implementation of Project 2-9. Table V.2-33, p. V.A.3-290, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-7 and 2-9 combined

Please see the discussion of the combined project impacts under Project 2-7.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-9

The Fremont Street/Howard Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Deterioration of the northbound and westbound critical movements at Fremont Street/Howard Street for Existing plus Project to LOS E relative to Existing conditions, is determined to be a significant impact. As a consequence a corresponding LOS deterioration is expected at this intersection for 2025 Cumulative plus Project compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-9b) would occur at the Fremont Street/Howard Street intersection with the implementation of Project 2-9. Table V.2-34, p. V.A.3-291, summarizes these results.

Significant Impact TR-P2-9a:

The Fremont Street/Howard Street intersection would operate unsatisfactorily at LOS E under Existing plus Project conditions for Project 2-9.

Significant Impact TR-P2-9b:

The intersection of Fremont Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-9.

TRANSIT

Muni bus lines 1, 20, 41, and 30X run eastbound along Howard Street from Beale Street and northbound onto Main Street while Muni bus line 30X runs in each direction between Main Street and The Embarcadero. Golden Gate Transit (GGT) bus lines 10, 54, 70/80, 72, 73, and 76 run westbound west of Beale Street. SamTrans bus line KX runs westbound between Beale and Fremont Streets, and SamTrans bus line 391 runs eastbound between Beale and Main Streets. During the AM peak period, there are approximately 47 westbound buses and 67 eastbound buses per hour. During the PM peak period there are approximately 28 westbound buses per hour west of Beale Street and 48 eastbound buses per hour east of Beale Street. There is one westbound Muni bus stop on the nearside of Fremont Street and one eastbound stop on the nearside of Main Street. Bicycle volumes along this section of Howard Street are moderate.

Project 2-9 would not reduce the number of travel lanes in the westbound direction, but would reduce the number of travel lanes in the eastbound direction between Main and Stuart Streets from two to one through lane. The volume of Muni buses (lines 1, 20, and 41) that make left-turn movements from Howard Street onto Main Street is high. However these buses would not

be affected by the proposed bicycle improvements since the bicycle lane is located on the other side of the street. Thus, a significant transit impact would not occur.

Converting the eastbound curb lane approaching Spear Street into a right-turn only lane, except for Muni, would benefit transit by allowing through movement for buses without forcing them to share one travel lane with other vehicles. Project 2-9 would also create a part-time bus zone (6:00 a.m. to 10:00 a.m.) on the south side of Howard Street, east of Spear Street. Therefore, a significant transit impact would not occur from Project 2-9.

PARKING

Project 2-9 would cause a net increase of approximately six on-street parking spaces during the AM peak period and approximately 17 on-street parking spaces during the PM peak period between Fremont and Spear Streets. For the AM peak period, Project 2-9 would revoke the existing AM peak period (7:00 a.m. to 9:00 a.m.) Tow-Away zone on the north side of Howard Street between Beale and Fremont Streets resulting in a gain of 10 on-street parking spaces. In addition, a morning peak period only (6:00 a.m. to 10:00 a.m.) bus zone would be added on the southeast corner of Howard and Spear Streets resulting in the loss of four on-street parking spaces. Project 2-9 would also revoke the existing PM peak period Tow-Away zone on the north side of Howard Street between Main and Fremont Streets for a gain of approximately 17 on-street parking spaces during the PM peak period. Therefore, there would be no significant parking impacts with the implementation of Project 2-9.

PEDESTRIAN

Pedestrian volumes are generally moderate, and there would be no changes in sidewalk width or crosswalk layout. The interactions between pedestrians and bicyclists would not change as a result of Project 2-9. Therefore, there would be no pedestrian impacts with the implementation of Project 2-9.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. Therefore, Project 2-9 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Howard Street has both residential and office buildings, and some of these buildings have off-street loading spaces. Most of the retail uses along Howard Street depend on

on-street parking spaces for truck loading. Incidents of truck double-parking depend on the availability of curbside parking spaces. Since Project 2-9 would not remove any on-street yellow commercial freight loading spaces, it would not cause any loading impacts.

PROJECT 2-10: MARKET STREET AND VALENCIA STREET INTERSECTION IMPROVEMENTS

Project 2-10 would add a four-foot wide westbound Class II left-turn bicycle lane immediately adjacent to the existing bicycle lane on the north side of Market Street for approximately 65 feet at the approach to the Market and Valencia Street intersection. Westbound bicyclists would use this additional bicycle lane to make left-turns onto Valencia Street. The sidewalk on the north side of Market Street at the intersection would be cut northward by five feet to provide an additional queuing area for bicyclists. The proposed bicycle lane would have a dedicated bicycle left-turn signal that would run concurrently with the Market Street westbound left-turn movement onto Valencia Street.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection, on p. V.A.3-3 of this EIR.

TRANSIT

Muni F-Market streetcar traverses this intersection along Market Street in the center lane, with approximately ten streetcars per hour each way during the AM peak period and approximately nine streetcars per hour in each direction during the PM peak period. The westbound F-Market streetcars and westbound bicyclists making left-turns onto Valencia Street currently do not conflict because the streetcars remain in the center lane and bicyclists use the same left-turn traffic signal phase as automobiles to make left turns. With Project 2-10, bicyclists would have a dedicated traffic signal phase to cross Market Street from either the left-turn bicycle lane or the queuing area onto Valencia Street. During the bicycle-only phase, the westbound F-line streetcars traveling in the center lane would stop at the same time as the parallel motor vehicle traffic. Therefore, there would be no potential conflicts between bicyclists and the F-Market streetcars.

Muni bus line 26 turns right from Valencia Street onto eastbound Market Street with an approximate frequency of three buses per hour during the AM and PM peak periods. These buses would not conflict with bicyclists making left-turns from westbound Market Street. There are no bus stops at this location that would conflict with bicycle movement, and there would be no change in the duration of the traffic signal phase for through vehicles on Market Street that

would affect transit travel time delays for either the Muni F-Market streetcar or Muni bus line 26. Therefore, there would be no significant transit impacts with implementation of Project 2-10.

PARKING

There would be no changes in parking layout or the existing number of parking spaces at this intersection. Therefore, there would be no significant parking impacts with implementation of Project 2-10.

PEDESTRIAN

The sidewalk on the north side of Market Street at the Valencia Street intersection would be narrowed by five feet to provide a queuing area on the street for bicyclists awaiting their traffic signal to cross Market Street onto Valencia Street. The resulting sidewalk width would be 10 feet, which would be adequate to accommodate the generally moderate pedestrian volumes at this intersection. Therefore, there would be no significant pedestrian impacts with the implementation of Project 2-10.

BICYCLE

The proposed Class II left-turn bicycle lane would provide bicyclists making a left-turn with a clear right-of-way and improved passage onto Valencia Street without having to merge with vehicle traffic on Market Street to make a left turn. Project 2-10 would also provide bicyclists with a dedicated traffic signal phase as well as a designated queuing area on the north side of the intersection before turning left. Bicyclists in the left-turn bicycle lane would not conflict with westbound bicyclists in the existing bicycle lane because all westbound movement would be stopped during the green left-turn movement. Therefore, Project 2-10 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

The proposed bicycle lane would not change existing on-street parking layout and loading activity at this location or affect any off-street loading facilities. Therefore, there would be no loading impacts with the implementation of Project 2-10.

PROJECT 2-11: MARKET STREET BICYCLE LANES, 17TH STREET TO OCTAVIA BOULEVARD

This project would involve the installation of short segments of Class II bicycle lanes in both directions on Market Street between 17th Street and Octavia Boulevard to close gaps in otherwise continuous Class II bicycle lanes. There are two options for this segment of Market Street.

- **Option 1**
  Option 1 would extend the length of the existing Class II bicycle lanes by removing right-turn lanes and a total of 49 on-street parking spaces approaching the intersections at Noe, Sanchez, Dolores, and Guerrero Streets in the eastbound direction and at Laguna, Buchanan, Church, and Sanchez Streets in westbound direction. This option would also cut back five feet from the sidewalks on the north side of Market Street at the nearside of Laguna and Buchanan Streets in the westbound direction and on the south side of Market Street at the nearside of Guerrero Street.

- **Option 1**
  Option 2 would extend the length of the existing Class II bicycle lanes by cutting back five feet from the sidewalk approaches at the nearside of Noe, Sanchez, Church, Buchanan, and Laguna Streets in both directions and would result in the removal of three on-street parking spaces.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the AM and PM peak hour. Two study intersections are included for the AM peak hour for Project 2-11. Tables V.2-35, p. V.A.3-297, and V.2-36, p. V.A.3-297, Table V.2-37, p. V.A.3-298, Table V.2-38, p. V.A.3-298, Table V.2-39, p. V.A.3-299, Table V.2-40, p. V.A.3-299, and Table V.2-41, p. V.A.3-300 summarize these results.

TABLE V.2-35
CLUSTER 2 – PROJECT 2-11[c,d]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
40.	Octavia Boulevard/Market Street[c]	>80	**F**	>80	**F**	>80	**F**
52.	Church Street/Market Street/ 14th Street[d]	>80	**F**	>80	**F**	>80	**F**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

c. LOS and average delay for Octavia Boulevard/Market Street for combined impacts of Projects 2-11 and 2-12.

d. LOS and average delay for Church Street/Market Street/14th Street for combined impacts of Projects 2-3 and 2-11.

TABLE V.2-36
CLUSTER 2 – PROJECTS 2-3 AND 2-11
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR CHURCH STREET/MARKET STREET/14TH STREET - EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing plus Project Option 1				Existing plus Project Option 2			
Existing		Project 2-11		Combined Projects 2-3 and 2-11		Project 2-11		Combined Projects 2-3 and 2-11	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
52.2	D	>80	**F**	>80	**F**	52.2	D	52.2	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-37
CLUSTER 2 – PROJECT 2-11 [c,d]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
40.	Octavia Boulevard/Market Street[c]	>80	**F**	>80	**F**	>80	**F**
52.	Church Street/Market Street/ 14th Street[d]	>80	**F**	>80	**F**	>80	**F**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

c. LOS and average delay for Octavia Boulevard/Market Street for combined impacts of Projects 2-11 and 2-12.

d. LOS and average delay for Church Street/Market Street/14th Street for combined impacts of Projects 2-3 and 2-11.

TABLE V.2-38
CLUSTER 2 – PROJECT 2-11[c,d]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
40.	Octavia Boulevard/Market Street[c]	>80	**F**	>80	**F**	>80	**F**
52.	Church Street/Market Street/ 14th Street[d]	>80	**F**	>80	**F**	>80	**F**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

c. LOS and average delay for Octavia Boulevard/Market Street for combined impacts for Projects 2-11 and 2-12.

d. LOS and average delay for Church Street/Market Street/14th Street for combined impacts of Projects 2-3 and 2-11.

TABLE V.2-39
CLUSTER 2 – PROJECT 2-3 AND 2-11
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR CHURCH STREET/MARKET STREET/14TH STREET - 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 2-11		Combined Projects 2-3 and 2-11		Project 2-11		Combined Projects 2-3 and 2-11	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	F	>80	F	>80	F	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-40
CLUSTER 2 – PROJECT 2-11 [c,d]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project Option 1		Existing plus Project Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
40.	Octavia Boulevard/Market Street[c]	41.9	D	41.9	D	41.9	D
52.	Church Street/Market Street/ 14th Street[d]	52.2	D	>80	F	52.2	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

c. LOS and average delay for combined impacts for Projects 2-11 and 2-12.

d. LOS and average delay for Church Street/Market Street/14th Street for combined impacts of Projects 2-3 and 2-11.

TABLE V.2-41
CLUSTER 2 – PROJECT 2-11 [c,d]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
40.	Octavia Boulevard/Market Street[c]	>80	F	>80	F	>80	F
52.	Church Street/Market Street/ 14th Street[d]	>80	F	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

c. LOS and average delay for combined impacts for Projects 2-11 and 2-12.

d. LOS and average delay for Church Street/Market Street/14th Street for combined impacts of Projects 2-3 and 2-11.

Intersection 40: Octavia Boulevard/Market Street

The Octavia Boulevard/Market Street intersection is common to Projects 2-11 and 2-12 within the Cluster 2 area. Only one design option is proposed for Project 2-12. For Project 2-11, two design options are proposed. Project 2-12 has the same lane configuration as Existing conditions. Similarly, Options 1 and 2 for Project 2-11 have the same lane configuration as that for Existing conditions. Therefore, no changes to the lane configuration are proposed under either Options for Projects 2-11 and 2-12.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 2-11 and 2-12 combined – AM Analysis

  In the AM Peak Hour under Existing conditions, this intersection operates at LOS F with more than 80 seconds of delay. The Octavia Boulevard/Market Street intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus combined Projects 2-11 Option 1 and 2-12 conditions. There would be no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay at this intersection, compared to Existing conditions. Therefore, a significant impact would not occur at the Octavia Boulevard/Market Street intersection in the AM peak hour under Existing conditions with the implementation of combined Project 2-11 Option 1 and Project 2-12.

Existing and Existing plus Project Conditions for Projects 2-11 and 2-12 combined – PM Analysis

In the PM Peak Hour, under Existing conditions, this intersection operates at LOS D with 41.9 seconds of delay. The Octavia Boulevard/Market Street intersection would operate satisfactorily at LOS D, with 41.9 seconds of delay under Existing plus combined Projects 2-11 Option 1 and 2-12 conditions. There would be no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, a significant impact would not occur at the Octavia Boulevard/Market Street intersection with the implementation of combined Project 2-11 Option 1 and Project 2-12 for the PM peak hour.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-11 and 2-12 combined – AM Analysis

In the AM Peak Hour, the Octavia Boulevard/Market Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative combined Projects 2-11 Option 1 and 2-12 conditions. This intersection would operate unsatisfactorily at LOS F with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at the Octavia Boulevard/Market Street intersection in the AM peak hour with the implementation of combined Project 2-11 Option 1 and Project 2-12 under 2025 Cumulative plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-11 and 2-12 combined – PM Analysis

In the PM Peak Hour, the Octavia Boulevard/Market Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative combined Projects 2-11 Option 1 and 2-12 conditions. This intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at the Octavia Boulevard/Market Street intersection with the implementation of combined Project 2-11 Option 1 and Project 2-12 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 2-11 and 2-12 combined – AM Analysis

In the AM Peak Hour, under Existing conditions, this intersection operates at LOS F with more than 80 seconds of delay. The Octavia Boulevard/Market Street intersection

would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus combined Projects 2-11 Option 2 and 2-12 conditions. There would be no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection compared to Existing conditions. Therefore, a significant impact would not occur at this intersection with the implementation of combined Project 2-11 Option 2 and Project 2-12

Existing and Existing plus Project Conditions for Projects 2-11 and 2-12 combined – PM Analysis

In the PM Peak Hour, under Existing conditions, this intersection operates at LOS D with 41.9 seconds of delay. The study intersection would continue to operate satisfactorily at LOS D, with 41.9 seconds of delay under Existing plus combined Projects 2-11 Option 2 and 2-12 conditions. There would be no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection for Existing plus Project conditions, compared to Existing conditions. Therefore, a significant impact would not occur at this intersection with the implementation of combined Project 2-11 Option 2 and Project 2-12.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-11 and 2-12 combined – AM Analysis

In the AM Peak Hour, the Octavia Boulevard/Market Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative combined Projects 2-11 Option 2 and 2-12 conditions. This intersection would operate unsatisfactorily at LOS F with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at the Octavia Boulevard/Market Street intersection in the AM peak hour with the implementation of combined Project 2-11 Option 2 and Project 2-12 under 2025 Cumulative plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-11 and 2-12 combined – PM Analysis

In the PM Peak hour, the Octavia Boulevard/Market Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative combined Projects 2-11 Option 2 and 2-12 conditions. This intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at the Octavia Boulevard/Market Street intersection with the implementation of combined Project 2-11 Option 2 and Project 2-12 under 2025 Cumulative plus Project conditions.

Project 2-11

Since the impacts of the combined Projects 2-11 Options 1 and 2 and 2-12 would not result in a significant traffic impact for either the AM or PM peak hour under Existing plus Project and 2025 Cumulative plus Project conditions, there would be no significant traffic impact from either Option 1 or Option 2 of individual Project 2-11.

Intersection 52: Church Street/Market Street/14th Street

The Church Street/Market Street/14th Street intersection is common to Projects 2-3 and 2-11 within the Cluster 2 area. Therefore, the analysis for the combined projects has been presented under Project 2-3, and is not repeated here.

- **Option 1**

Existing and Existing plus Project Conditions for combined Projects 2-3 and 2-11 Option 1 – AM Analysis
Please see the discussion regarding AM analysis for the combined projects under Project 2-3.

Existing and Existing plus Project Conditions for Projects 2-3 and 2-11 combined – PM Analysis
Please see the discussion regarding PM analysis for the combined projects under Project 2-3.

Existing and Existing plus Project Conditions for Project 2-11 Option 1 – AM Analysis
For AM peak hour conditions, combined Projects 2-3 and 2-11 Option 1 would not result in a significant traffic impact at the Church Street/Market Street/14th Street intersection. Therefore, there would be no significant traffic impact for the AM peak hour at the Church Street/Market Street/14th Street intersection as a result of Project 2-11 Option 1.

Existing and Existing plus Project Conditions for Project 2-11 Option 1 – PM Analysis
In the PM Peak Hour, under Existing conditions, for the PM peak hour, this intersection operates at LOS D with 52.2 seconds of delay. The Church Street/Market Street/14th Street intersection would operate at LOS F, with more than 80 seconds of delay under Existing plus combined Project 2-11 Option 1 conditions, for the PM peak hour. The southwest bound lane configuration would be modified from one exclusive left-turn lane, two through lanes, and one exclusive right-turn lane to one exclusive left-turn lane, one through lane, and one exclusive right-turn lane. Due to the reduction in capacity in the southwest bound approach, there would be an increase in delay for this intersection. Because the southwest bound critical movement at Church Street/Market Street/14th Street would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P2-11a) would occur at the Church Street/Market

Street/14th Street intersection with the implementation of Project 2-11 Option 1. Table V.2-36, p. V.A.3-297, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Option 1 of Projects 2-3 and 2-11 combined – AM Analysis

Please see the analysis of impacts for the combined projects under Project 2-3.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-3 and 2-11 combined – PM Analysis

Please see the analysis of impacts for the combined projects under Project 2-3.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-11 – AM Analysis

In the AM Peak Hour, the Church Street/Market Street/14th Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative conditions for the AM peak hour. Under 2025 Cumulative plus Project 2-11 Option 1 conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Since there would be no change in LOS and because the southbound critical movement would not deteriorate, a significant impact would not occur at this intersection with the implementation of Project 2-11 Option 1 under 2025 Cumulative plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-11 Option 1 – PM Analysis

In the PM Peak Hour, the Church Street/Market Street/14th Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project 2-11 Option 1 conditions, this intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay. The southwest bound lane configuration would be modified from one exclusive left-turn lane, two through lanes, and one exclusive right-turn lane to one exclusive left-turn lane, one through lane, and one exclusive right-turn lane. Due to the reduction in capacity in the southwest bound approach, there would be an increase in delay for this intersection. Deterioration of the southwest bound critical movement at Church Street/Market Street/14th Street for Existing plus Project to LOS F relative to Existing Conditions, is determined to be a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-11b) would occur at the Church Street/Market Street/14th Street intersection with implementation of Project 2-11 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 2-3 and 2-11 combined – AM Analysis
Please see the analysis of impacts for the combined projects under Project 2-3.

Existing and Existing plus Project Conditions for Projects 2-3 and 2-11 combined – PM Analysis
Please see the analysis of impacts for the combined projects under Project 2-3.

Existing and Existing plus Project Conditions for Project 2-11 Option 2 – AM Analysis
For AM peak hour conditions, combined Projects 2-3 and 2-11 Option 2 would not result in a significant traffic impact at the Church Street/Market Street/14th Street intersection. Therefore, there would be no significant traffic impact for the AM peak hour at the Church Street/Market Street/14th Street intersection as a result of Project 2-11 Option 2.

Existing and Existing plus Project Conditions for Project 2-11 – PM Analysis
In the PM Peak Hour, under Existing conditions, for the PM peak hour, this intersection operates at LOS D with 52.2 seconds of delay. There are no lane configuration changes to the study intersection under Existing plus Project 2-11 Option 2 conditions compared to Existing conditions. Hence, there would be no change in LOS or delay for the Church Street/Market Street/14th Street intersection for Existing plus Project conditions. Therefore, under Existing plus Project conditions, Project 2-11 Option 2 would not cause a significant impact to the Church Street/Market Street/14th Street intersection. Table V.2-40, p. V.A.3-299, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-3 and 2-11 combined – AM Analysis
Please see the analysis of impacts for the combined projects under Project 2-3.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-3 and 2-11 combined – PM Analysis
Please see the analysis of impacts for the combined projects under Project 2-3.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-11 – AM Analysis
In the AM Peak Hour, the Church Street/Market Street/14th Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project 2-11 Option 2 conditions, for the AM peak hour. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at the Church Street/Market Street/14th Street intersection for the AM Peak hour with the implementation of Project 2-11 Option 2 under 2025 Cumulative plus Project conditions. Table V.2-38, p. V.A.3-298, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-11 – PM Analysis

In the PM Peak Hour, the Church Street/Market Street/14th Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project 2-11 Option 2 conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at the Church Street/Market Street/14th Street intersection for the PM Peak hour with the implementation of Project 2-11 Option 2 under 2025 Cumulative plus Project conditions. Table V.2-38, p. V.A.3-298, summarizes these results.

Significant Impact TR-P2-11a:

The Church Street/Market Street/14th Street intersection would operate at LOS F under Existing plus Project conditions for the PM peak hour. Therefore, a significant impact would occur at the Church Street/Market Street/14th Street intersection with the implementation of Project 2-11 Option 1 under Existing plus Project conditions.

Significant Impact TR-P2-11b:

The intersection of Church Street/Market Street/14th Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-11 Option 1 for the PM peak hour.

TRANSIT

The Muni F-Market streetcar runs on the center lane with approximately 10 cars per hour each way during the AM and PM peak periods. F-Market streetcars stop in the center lane to load and unload passengers at a transit island and do not conflict with bicycle movement.

Muni bus line 37 runs westbound between Church and Diamond Streets and eastbound between Eureka and Church Streets, with approximately four buses each way during the AM and PM peak periods. There are two westbound Muni bus stops at the far side of Sanchez and Noe Streets. There is one eastbound bus stop on the near side of Sanchez Street in the right-turn lane before buses make a right turn onto 15th Street. Observations[1] show that buses generally pick up and drop off passengers at the stops at an angle without being completely parallel to the curb.

[1] Field surveys were conducted by CHS Consulting on Thursday, September 20, 2007 during the midday.

- **Option 1**
  Under Option 1, the right-turn only lane on eastbound Market Street approaching Sanchez Street would be removed and replaced by a six-foot wide Class II bicycle lane, with additional width given to the adjacent travel lane. When buses arrive at the near-side bus stop at this location, they would stop in the curbside bicycle lane to load or unload passengers, and bicyclists would pass the bus to the left in the general travel lane as they currently do when buses stop in the existing right-turn only lane. Therefore, there would be no significant transit impacts under Project 2-11 Option 1.

- **Option 2**
  Option 2 would reduce the width of the sidewalk on Market Street by five feet at this location in order to maintain the right-turn lane and extend the five-foot wide Class II bicycle lane on the nearside of Sanchez Street. Option 2 would operate the same for transit as the Existing conditions. Therefore, there would be no significant transit impacts under Project 2-11 Option 2.

PARKING

There are approximately 185 existing on-street parking spaces on both sides of Market Street between 17th Street and Octavia Boulevard.

- **Option 1**
  Option 1 would remove approximately 50 on-street parking spaces (about 27 percent of the total) between 17th Street and Octavia Boulevard, about 30 spaces on the north side of Market Street and 20 spaces on the south side. Parking occupancy on Market Street in the vicinity of Project 2-11 is high at approximately 80 percent. The loss of 50 parking spaces under Option 1 would create a parking demand higher than the proposed supply and would cause approximately 13 vehicles to seek parking elsewhere in the vicinity. In San Francisco, parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact under CEQA, but rather a social effect. The loss of parking may cause potential indirect physical effects, which would include cars circling and looking for a parking space in neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to some drivers becoming aware of constrained parking conditions in a given area and subsequently shifting travel modes. Any secondary environmental impacts that may result from a shortfall in parking would be minor, and any net reduction in on-street parking supply would not result in significant parking impacts. Therefore, this would not be considered a significant parking impact with implementation of Project 2-11 Option 1.

- **Option 2**
  Option 2 would remove approximately three on-street parking spaces on the south side of Market Street between Duboce and Guerrero Streets. The loss of three parking spaces would be minimal and the demand could still be accommodated within the remaining

spaces. Therefore there would be no significant parking impact with implementation of Project 2-11 Option 2.

PEDESTRIAN

- **Option 1**
  Option 1 would reduce the sidewalk width on the north side of Market Street by five feet on the nearside of Laguna and Buchanan Streets and on the south side direction on the nearside of Guerrero Street. The resulting sidewalk widths at these locations would be a minimum of 15 feet, which is a sufficient width for pedestrians to travel safely.

- **Option 2**
  Option 2 would reduce the width of the sidewalk by five feet on the nearside of Laguna, Buchanan, Church, Sanchez, and Noe Streets on both sides of Market Street. The resulting sidewalk widths at these locations would be a minimum of 10 feet, which is suitable for pedestrian movements.

  Under both options, Project 2-11 would extend the pedestrian crossing distance by five feet at Noe and Sanchez Streets. The curb-to-curb width along this section of Market Street is approximately 82 feet wide and there is a refuge area on the south side of the street approaching these two intersections. The existing pedestrian crossing time is approximately 26 seconds which should be sufficient for pedestrians to cross the proposed width of Market Street (87 feet at 3.3 ft/sec.). Therefore, there would be no significant pedestrian impacts with the implementation of Project 2-11.

BICYCLE

Extending the existing Class II bicycle lanes to the intersections would provide bicyclists with a designated right-of-way for travel. Therefore, neither Option 1 nor Option 2 of Project 2-11 would have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Market Street has substantial retail and commercial uses and delivery vehicles rely on the on-street parking spaces for loading and unloading. A moderate amount of double-parking was observed[2] during the midday.

- **Option 1**
  With Option 1, the block with the largest reduction in on-street parking spaces (nine spaces) is on the north side of Market Street near Noe Street. This corner has a restaurant

[2] Field surveys were conducted by CHS Consulting on Thursday, September 20, 2007 during the midday.

and other active retail uses, and, as a result of Project 2-11 Option 1, their loading demand would have to be accommodated on Noe Street where additional on-street yellow commercial freight loading spaces may need to be created. Therefore, there would be significant loading impacts (Significant Impacts TR-P2-11c and 2-11d) with implementation of Project 2-11 Option 1 under Existing plus Project and 2025 Cumulative plus Project conditions.

- **Option 2**
  Option 2 would not remove on-street parking spaces and therefore would not have an impact on loading.

Significant Impact TR-P2-11c:

A significant impact to loading would result on the north side of Market Street near Noe Street from implementation of Project 2-11 Option 1 under Existing plus Project conditions.

Significant Impact TR-P2-11d:

A significant impact to loading would result on the north side of Market Street near Noe Street from implementation of Project 2-11 Option 1 under 2025 Cumulative plus Project conditions.

PROJECT 2-12: MARKET STREET BICYCLE LANES, OCTAVIA BOULEVARD TO VAN NESS AVENUE

Project 2-12 was implemented on May 15, 2006, prior to the Bicycle Plan injunction; as such, post-project implementation conditions describe what is on the ground today and are analyzed under Existing plus Project and 2025 Cumulative plus Project conditions. Pre-project conditions describe what existed before the implementation of Project 2-12 and are analyzed under Existing and 2025 Cumulative conditions.

A Class II bicycle lane was added in both directions, except on the south side between Gough Street and Valencia Street, where sharrows were added. Approximately 30 metered on-street parking spaces and six metered motorcycle spaces were removed from Market Street between 12th Street and Octavia Boulevard. A total of 30 metered parking spaces were added at nearby locations on Market, 12th and Gough Streets by converting parallel parking spaces to perpendicular spaces and by the removal of a travel lane.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

One study intersection is included for the AM and PM peak hours for Project 2-12.

Intersection 40: Octavia Boulevard/Market Street

This Octavia Boulevard/Market Street intersection is common to both Projects 2-11 and 2-12. Therefore, the AM and PM analysis for this intersection has been discussed under Project 2-11. There would be no significant traffic impacts resulting from Projects 2-11 and 2-12 combined. Therefore, there would be no significant impacts from individual Project 2-12 for either AM or PM peak hour conditions, for either Existing plus Project or 2025 Cumulative plus Project. Please see the discussion for the combined projects under Project 2-11 for both AM and PM analysis for Existing plus Project and 2025 Cumulative plus Project. See Table V.2-37, p. V.A.3-298, Table V.2-38, p. V.A.3-298, Table V.2-39, p. V.A.3-299, Table V.2-40, p. V.A.3-299, and Table V.2-41, p. V.A.3-300, for the results of study at this intersection.

TRANSIT

There are five eastbound Muni bus lines (6, 7, 26, 71, and 71L) with a combined frequency of approximately 25 buses per hour during the AM and PM peak periods. The Muni F-Market streetcar line operates in the median with approximately 10 cars per hour during the AM peak period and approximately nine cars per hour during the PM peak period. All eastbound Muni buses and F-Market streetcars travel in the center lane of Market Street with island stops adjacent to the center lane. There is no interface between bicycles and eastbound Muni service.

In the westbound direction, there are four Muni bus lines (6, 7, 71, and 71L) with a combined frequency of approximately 22 buses per hour during the AM and the PM peak periods on this segment of Market Street. In addition, the F-Market streetcar line operates approximately 10 cars per hour during the AM peak period and approximately nine cars per hour during the PM peak period. These buses and streetcars travel in the center lane with an island stop adjacent to the center lane east of the Market and Gough Street intersection. Muni bus lines 6, 7, 71, and 71L (approximately 22 buses per hour during the AM and the PM peak periods) turn right onto Haight Street at Gough Street. This right turn causes a conflict point between Muni buses and bicyclists moving through (westbound) along Market Street. Muni buses and bicyclists start to cross paths at approximately 100 feet before reaching the intersection of Market, Gough, and Haight Streets. However, observations[3] indicate that bus drivers and bicyclists tend to yield to each other at this approach. This conflict exists today and Project 2-12 would not make it any worse than the existing condition. Therefore, no significant transit impacts with implementation of Project 2-12.

[3] Field surveys were conducted by CHS Consulting on Thursday, September 20, 2007 during the PM peak.

PARKING

Project 2-12 removed 30 metered parking spaces and six metered motorcycle spaces along Market Street between 12th Street and Octavia Boulevard but also added six metered parking spaces on the north side of Market Street between Franklin and Rose Streets, 20 metered spaces on 12th Street between Market Street and Van Ness Avenue (by converting parallel to perpendicular parking spaces), and four metered spaces on the east side of Gough Street between Market and Colton Streets for a net loss of six motorcycle parking spaces.

The loss of six metered motorcycle parking spaces has had a minimal impact, and has been accommodated in the vicinity of Project 2-12. Therefore there have been no significant parking impacts resulting from the implementation of Project 2-12.

PEDESTRIAN

Pedestrian volumes in this area are moderate to high. There were no changes in sidewalk width or crosswalk layout as a result of Project 2-12. In general bicyclists have not been observed[4] making turns that would conflict with pedestrians along this segment of Market Street. The interactions between pedestrians and bicyclists have not changed as a result of Project 2-12 with Option 1 and Option 2. Therefore, there have been no significant pedestrian impacts with implementation of Project 2-12.

BICYCLE

Market Street has one of the highest volumes of bicyclists in the city; the installation of bicycle lanes has provided bicyclists with a designated right-of-way for travel. The installation of sharrows has increased motor vehicle drivers' awareness that bicyclists may be on the road and has helped bicyclists identify a safe travel pathway outside the 'door zone'. Delivery vehicles were occasionally observed to be parked along the curb in the bicycle lane and oftentimes extending several feet into the adjacent travel lane. The combined width of the bicycle lane and adjacent travel lane through Project 2-12 is 16 to 17 feet. This provides ample room for bicyclists to safely pass the stopped delivery trucks within the travel lane partially obstructed by the delivery vehicle. Therefore, Project 2-12 has not had a significant impact on cyclists but has had the beneficial effect of improving roadway conditions and safety for bicyclists.

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[4] Field surveys were conducted by CHS Consulting on Thursday, September 20, 2007 during the midday.

LOADING

This segment of Market Street has mostly retail and commercial uses. Their loading demand is partially met in the designated loading zones along Market Street or on the side streets. Occasional truck-parking on the sidewalks or in the curb lane was observed during the midday. While some of these trucks were in violation of the *Transportation Code*, no significant conflicts between trucks and pedestrians were observed because pedestrian volumes in this segment of Market Street are relatively moderate, and sidewalks are sufficiently wide. There was no significant traffic delay observed because traffic volumes are generally low during midday. Therefore, there are no significant loading impacts from the implementation of Project 2-12.

PROJECT 2-13: MCCOPPIN STREET BICYCLE PATH, MARKET STREET TO VALENCIA STREET

Project 2-13 was partially implemented as a part of the Central Freeway Ancillary Projects on September 9, 2005 prior to the Bicycle Plan injunction. Project 2-13 added a bi-directional Class I bicycle path connecting the intersection of Market Street and Octavia Boulevard to the western terminus of McCoppin Street, and a yet-to-be implemented Class II bicycle lane in the westbound direction. Approximately four on-street parking spaces were removed on the north side of McCoppin Street.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection, on p. V.A.3-3 of this EIR..

TRANSIT

There are no transit lines on this segment of McCoppin Street. Therefore, there are no transit impacts.

PARKING

Project 2-13 removed four on-street parking spaces. While parking occupancy rates in the area are relatively high, there are usually available parking spaces on this last block of McCoppin Street. Therefore, the loss of four parking spaces with implementation of Project 2-13 would not cause a significant parking impact.

PEDESTRIAN

Pedestrian volumes are generally low, and there were no changes in sidewalk width or crosswalk layout. With this Class I facility, bicyclists and pedestrians share a pathway separated

from motor vehicle traffic and pedestrians are separated from bicyclists by the sidewalk curb. No pedestrian/bicycle conflicts were observed.[5] Therefore, there would be no pedestrian impacts with implementation of Project 2-13.

BICYCLE

The proposed Class I bicycle path and Class II bicycle lanes would provide bicyclists with a designated right-of-way for travel. The removal of on-street parking on the north side of McCoppin Street would help bicyclists avoid the risk of getting hit by the door of a parked car by eliminating the "door zone." Therefore, Project 2-13 would not result in a negative impact to bicyclists but could have the beneficial effect of improving road sharing and safety for bicyclists.

LOADING

Loading demand is low at this dead end block and there were no double-parked vehicles or significant loading needs observed in the field in this segment of McCoppin Street. Therefore, there would be no loading impacts with the implementation of Project 2-13.

PROJECT 2-14: MCCOPPIN STREET BICYCLE LANE, GOUGH STREET TO VALENCIA STREET

Project 2-14 would add a westbound Class II bicycle lane in both directions between Gough and Valencia Streets by removing one westbound travel lane. Approximately seven on-street parking spaces would be removed and three parking spaces would be gained between Gough and Valencia Streets.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection, on p. V.A.3-3 of this EIR..

TRANSIT

Muni bus line 26 runs only in the westbound direction between Gough and Valencia Streets, with approximately three buses per hour during the AM and PM peak periods. There is an existing stop for Muni bus line 26, approximately 130 long, at the far side of the Gough Street intersection. Transit volumes are very low, and observed bicycle volumes were also low, so current interactions between buses and bicyclists are minimal. The proposed Class II bicycle lane and removal of one westbound travel lane would not substantially change existing

[5] Field surveys were conducted by CHS Consulting on Thursday, September 20, 2007 during the midday.

interactions between buses and bicyclists or affect transit operation and travel time. Therefore, there would be no significant transit impacts with the implementation of Project 2-14.

PARKING

Project 2-14 would result in a net loss of approximately four on-street parking spaces. Parking occupancy along McCoppin Street is high but the loss of four spaces is minimal and can be accommodated within the vicinity of Project 2-14. Therefore, there would be no significant parking impact with implementation of Project 2-14.

PEDESTRIAN

Pedestrian volumes are generally low, and there would be no changes in sidewalk width or crosswalk layout with Project 2-14. The interactions between pedestrians and bicyclists would not change as a result of Project 2-14. Therefore, there would be no pedestrian impacts with the implementation of Project 2-14.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. Therefore, Project 2-14 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

No on-street loading spaces would be removed as the result of the project. Land uses along this street are mostly residential with some commercial. No double-parked vehicles or significant loading needs were observed on this segment of McCoppin Street. Therefore, there would be no loading impacts with the implementation of Project 2-14.

PROJECT 2-15: OTIS STREET BICYCLE LANE, GOUGH STREET TO SOUTH VAN NESS AVENUE

Project 2-15 would add a westbound Class II bicycle lane between South Van Ness Avenue and Gough Street, resulting in a narrowing of travel lanes. The current curb-to-curb width of approximately 61.5 feet would not change as a result of Project 2-15.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection, on p. V.A.3-3 of this EIR..

TRANSIT

Muni bus lines 14, 14L, 26, and 49 operate along this segment of Otis Street with approximately 21 buses per hour during the AM and PM peak periods. There is an approximately 130-foot long Muni bus stop on the far side of 12th Street. The existing curb lane is very wide (23.5 feet); restriping for the bicycle lane would still provide sufficient width to accommodate transit, the bicycle lane and parking. The installation of a bicycle lane would better delineate the separate travel path for bicyclists and general traffic but would not change how bicycles and transit interact. The only narrowing of travel lanes would occur on the inside lanes which are not used by bicycles or transit. Therefore, there would be no significant impacts on transit capacity, operation, or travel time, or on the interactions between buses and bicyclists with the implementation of Project 2-15.

PARKING

There would be no changes in parking layout or in the existing number of parking spaces in this segment of Otis Street. Therefore, there would be no parking impacts with the implementation of Project 2-15.

PEDESTRIAN

Pedestrian volumes are generally low, and there would be no changes in sidewalk width or crosswalk layout. The interactions between pedestrians and bicyclists would not change as a result of Project 2-15. Therefore, there would be no pedestrian impacts with the implementation of Project 2-15.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. Double-parking by delivery vehicles occurs occasionally along this segment of Otis Street. While this double-parking activity would likely continue with installation of the bicycle lane, bicyclists would still be able to pass double-parked vehicles to the left in the general traffic lane. This would not represent a change from existing conditions. In addition, the proposed restriping would provide parking, bicycle, and travel lanes all with standard widths. Therefore, Project 2-15 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

There are several commercial and industrial uses along the north side of Otis Street. Their loading demand is typically accommodated at the on-street parking spaces; double-parking occurs only occasionally.[6] Since there would be no changes in the number or location of on-street parking including the on-street yellow commercial freight loading spaces, there would be no loading impacts with the implementation of Project 2-15.

PROJECT 2-16: TOWNSEND STREET BICYCLE LANES, 8TH STREET TO THE EMBARCADERO

Project 2-16 would add a Class II bicycle lane in both directions between 2nd and 8th Streets and sharrows between The Embarcadero and 2nd Street. Project 2-16 would reduce travel lanes from two to one and add a two-way center left-turn lane in both directions between 2nd and 4th Streets. The project would also add Class II bicycle lanes on Townsend Street in both directions between 7th and 8th Streets by narrowing travel lanes. No travel lane or parking removals would be required along this segment.

The segment of Townsend Street between 4th and 7th Streets would have two options. Option 1 would convert parking on the north side of Townsend Street into parallel parking and the pull-in angled parking on the south side into back-in angled parking. This option would remove approximately 80 on-street parking spaces and six part-time parking spaces that are currently restricted to truck loading during certain hours

Option 2 would convert parking on the north side into back-in perpendicular parking and the pull-in angled parking on the south side into parallel parking. This option would result in a loss of approximately 26 spaces, but a gain of 16 part-time parking spaces that are currently restricted to truck loading during certain hours

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour. Tables V.2-42, p. V.A.3-317, and V.2-43, p. V.A.3-317, summarize these results.

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[6] Field surveys were conducted by CHS Consulting on Thursday, September 20, 2007 during the midday.

TABLE V.2-42
CLUSTER 2 – PROJECT 2-16[c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project[c] Option 1		Existing plus Project[c] Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
6.	2nd Street/Townsend Street[c]	13.8	B	20	C	20	C
14.	7th Street/Townsend Street	25.4	C	>80	**F**	>80	**F**
15.	4th Street/Townsend Street	21	C	20.8	C	29.7	C
16.	3rd Street/Townsend Street	38.8	D	40.1	D	38.8	D
17.	6th Street /Brannan Street	>80	**F**	>80	**F**	>80	**F**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

c. LOS and average delay for 2nd Street/Townsend Street for combined impacts of Projects 2-1 and 2-16.

TABLE V.2-43
CLUSTER 2 – PROJECT 2-16[c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project[c] Option 1		2025 Cumulative plus Project[c] Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
6.	2nd Street/Townsend Street[c]	15.8	B	**55.1**	**E**	**55.1**	**E**
14.	7th Street/Townsend Street	>80	**F**	>80	**F**	>80	**F**
15.	4th Street/Townsend Street	**70.9**	**E**	>80	**F**	**63.7**	**E**
16.	3rd Street/Townsend Street	>80	**F**	>80	**F**	>80	**F**
17.	6th Street /Brannan Street	>80	**F**	>80	**F**	>80	**F**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

c. LOS and average delay for 2nd Street/Townsend Street for combined impacts of Projects 2-1 and 2-16.

TABLE V.2-44
CLUSTER 2 – PROJECTS 2-1 AND 2-16
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR 2ND STREET/TOWNSEND STREET EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing plus Project Option 1				Existing plus Project Option 2			
Existing		Project 2-16		Combined Project 2-1 and 2-16		Project 2-16		Combined Project 2-1 and 2-16	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
13.8	B	20	C	20	C	20	C	20	C

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.2-45
CLUSTER 2 – PROJECTS 2-1 AND 2-16
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR 2ND STREET/TOWNSEND STREET 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 2-16		Combined Projects 2-1 and 2-16		Project 2-16		Combined Projects 2-1 and 2-16	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
15.8	B	**55.1**	**E**	**55.1**	**E**	**55.1**	**E**	**55.1**	**E**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Intersection 6: 2nd Street/Townsend Street

The 2nd Street/Townsend Street intersection is common to Projects 2-1 and 2-16 within the Cluster 2 area. For Project 2-1, the lane configuration at the intersection remains the same as under Existing (No Project) conditions for both Option 1 and Option 2. However, Project 2-16

reduces the capacity in the eastbound direction on Townsend Street for this intersection. Under Project 2-16, both Options 1 and 2 would modify the eastbound shared through-left and shared through-right lane to a single shared through-left-right turn lane.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 2-1 and 2-16 combined
  Please see the discussion of the combined projects impacts under Project 2-1.

  Existing and Existing plus Project Conditions for Project 2-16
  Under Existing conditions, this intersection operates at LOS B in the PM peak hour with 13.8 seconds of delay. The 2nd Street/Townsend Street intersection would operate satisfactorily at LOS C, with 20 seconds of delay under Existing plus Project conditions. Therefore, Project 2-16 Option 1 would not cause a significant traffic impact to the 2nd Street/Townsend Street intersection under Existing plus Project conditions.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-1 and 2-16 combined
  Please see the discussion of the combined projects impacts under Project 2-1.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-16
  The 2nd Street/Townsend Street intersection would operate satisfactorily at LOS B in the PM peak hour, with 15.8 seconds of average delay under 2025 Cumulative conditions. The 2nd Street/Townsend Street intersection would operate unsatisfactorily at LOS E, with 55.1 seconds of delay under 2025 Cumulative plus Project conditions. Because the southbound and eastbound critical movements at 2nd Street/Townsend Street would deteriorate, with a corresponding deterioration in the V/C ratios for these movements relative to 2025 Cumulative conditions, a significant impact (Significant Impact TR-P2-16a) would occur at this intersection with the implementation of Project 2-16 Option 1.

- **Option 2**

  Existing and Existing plus Project Conditions for Projects 2-1 and 2-16 combined
  Please see the discussion of the combined projects impacts under Project 2-1.

  Existing and Existing plus Project Conditions for Project 2-16
  Under Existing conditions, this intersection operates at LOS B in the PM peak hour with 13.8 seconds of delay. The 2nd Street/Townsend Street intersection would operate satisfactorily at LOS C, with 20 seconds of delay under Existing plus Project 2-16 Option 2 conditions. Therefore, Project 2-16 Option 2 would not cause a significant traffic impact to the 2nd Street/Townsend Street intersection under Existing plus Project conditions. Table V.2-43, p. V.A.3-317, shows a comparison between LOS and average delay for this intersection under Existing and Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 2-1 and 2-16 combined

Please see the discussion of the combined project impacts under Project 2-1.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 2-16
The 2nd Street/Townsend Street intersection would operate unsatisfactorily at LOS E in the PM peak hour, with 55.1 seconds of delay under 2025 Cumulative plus Project 2-16 Option 2 conditions. Because the southbound and eastbound critical movements at 2nd Street/Townsend Street would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P2-16b) would occur at the 2nd Street/Townsend Street intersection with the implementation of Option 2 of Project 2-16 alone. Table V.2-42, p. V.A.3-317, summarizes these results.

Intersection 14: 7th Street/Townsend Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 25.4 seconds of delay. The 7th Street/Townsend Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project 2-16 Option 1 conditions. The eastbound lane configuration would be modified from one shared through-left turn lane and one shared through-right turn lane to one shared through-left turn lane, and one exclusive right-turn lane. Due to the lane configuration adjustment in the eastbound direction, there would be an increase in delay along this approach. The average intersection delay would increase by more than 80 seconds compared to Existing conditions. Because the northbound and eastbound critical movements at the 7th Street/Townsend Street intersection would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P2-16c) would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 7th Street/Townsend Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project 2-16 Option 1 conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Deterioration of the northbound and eastbound critical movements at 7th Street/Townsend Street to LOS F, when comparing Existing plus Project to Existing Conditions, is determined to be a significant impact. As a consequence a corresponding LOS deterioration would be expected, at this intersection for 2025 Cumulative plus Project when compared to 2025

Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P2-16e) would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS C with 25.4 seconds of delay. The 7th Street/Townsend Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project 2-16 Option 2 conditions. The eastbound lane configuration would be modified from one shared through-left turn lane and one shared through-right turn lane to one shared through-left turn lane, and one exclusive right-turn lane. Due to the lane configuration adjustment in the eastbound direction, there would be an increase in delay. The average intersection delay would increase by more than 80 seconds compared to Existing conditions. Because the northbound and eastbound critical movements at the 7th Street/Townsend Street intersection would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P2-16d) would occur at the 7th Street/Townsend Street intersection with implementation of Project 2-16 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 7th Street/Townsend Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. The 7th Street/Townsend Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project 2-16 Option 2 conditions. Deterioration of the northbound and eastbound critical movements at 7th Street/Townsend Street to LOS F, when comparing Existing plus Project to Existing conditions, is determined to be a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P 2-16f) would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 15: 4th Street/Townsend Street

- **Option 1**

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS C with a delay of 21 seconds. The 4th Street/Townsend Street intersection would operate satisfactorily at LOS C, with 20.8 seconds of delay under Existing plus Project 2-16 Option 1 conditions. The northbound lane configuration would be modified from two exclusive right-turn lanes to one exclusive right-turn lane. The southbound lane configuration would be modified

from two exclusive left-turn lanes, one through lane, and one shared through-right turn lane to one exclusive left-turn lane, two through lanes, and one exclusive right-turn lane. The eastbound lane configuration would be modified from one through lane and one shared through-right turn lane to one through lane and one exclusive right-turn lane. However, even with this reduction in capacity in the northbound, southbound, and eastbound directions, the average intersection delay would decrease by 0.2 seconds, compared to Existing conditions. Therefore, Project 2-16 Option 1 would not cause a significant traffic impact to the 4th Street/Townsend Street intersection under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 4th Street/Townsend Street intersection would operate unsatisfactorily at LOS E, with 70.9 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project 2-16 Option 1 conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Because the southbound and westbound critical movements at the 4th Street/Townsend Street intersection either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P2-16g) would occur at the 4th Street/Townsend Street intersection with the implementation of Project 2-16 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS C with a delay of 21 seconds. The 4th Street/Townsend Street intersection would operate satisfactorily at LOS C, with 29.7 seconds of delay under Existing plus Project 2-16 Option 2 conditions. The northbound lane configuration would be modified from two exclusive right-turn lanes to one exclusive right-turn lane. The southbound lane configuration would be modified from two exclusive left-turn lanes, one through lane, and one shared through-right turn lane to one exclusive left-turn lane, two through lanes, and one exclusive right-turn lane. The eastbound lane configuration would be modified from one through lane and one shared through-right turn lane to one shared through-right turn lane. Due to the reduction of capacity in the northbound direction, southbound direction, and eastbound direction, the average intersection delay would increase along these approaches. The average intersection delay would increase by 8.7 seconds, compared to Existing conditions. However, the intersection would continue to operate at a satisfactory LOS. Therefore, Project 2-16 Option 2 would not cause a significant traffic impact to the 4th Street/Townsend Street intersection under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 4th Street/Townsend Street intersection would operate unsatisfactorily at LOS E, with 63.7 seconds of delay under 2025 Cumulative plus Project 2-16 Option 2 conditions.

Since the intersection would operate at LOS E and the amount of delay decreases by 7.2 seconds (from 70.9 to 63.7 seconds), and the westbound critical movement would improve and would not deteriorate to an unacceptable LOS; a significant impact would not occur at the 4th Street/Townsend Street intersection with the implementation of Project 2-16 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 16: 3rd Street/Townsend Street

- **Option 1**

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS D with 38.8 seconds of delay. The 3rd Street/Townsend Street intersection would operate satisfactorily at LOS D, with 40.1 seconds of delay under Existing plus Project conditions. The eastbound lane configuration would be modified from two through lanes and one exclusive left-turn lane to one through lane and one exclusive left-turn lane. Due to the reduction of capacity in the eastbound direction, there would be an increase in delay along this approach. The average intersection delay would increase by 1.3 seconds, compared to Existing conditions. The 3rd Street/Townsend Street intersection would operate satisfactorily at LOS D, with 40.1 seconds of delay under Existing plus Project conditions. Therefore, Project 2-16 Option 1 would not cause a significant traffic impact to the 3rd Street/Townsend Street intersection under Existing plus Project conditions. See Table V.2-42, p. V.A.3-317, for these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 3rd Street/Townsend Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay. However, the northbound and eastbound critical movements at 3rd Street/Townsend Street would not deteriorate, compared to 2025 Cumulative conditions; a significant impact would not occur at this intersection with the implementation of Project 2-16 Option 1 under 2025 Cumulative plus Project conditions. See Table V.2-43, p. V.A.3-317, for these results.

- **Option 2**

Existing and Existing plus Project Conditions

The 3rd Street/Townsend Street intersection would operate satisfactorily at LOS D, with 38.8 seconds of average delay under Existing plus Project conditions. There would be no lane configuration adjustments to the intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection compared to Existing conditions. Therefore, Project 2-16 Option 2 would not cause a significant impact to the 3rd Street/Townsend Street intersection under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 3rd Street/Townsend Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. The 3rd Street/Townsend Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at this intersection with the implementation of Project 2-16 Option 2 under 2025 Cumulative plus Project conditions.

Intersection 17: 6th Street/Brannan Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS F in the PM peak hour with more than 80 seconds of delay. The 6th Street/Brannan Street intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions. There would be no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, a significant impact would not occur at the 6th Street/Brannan Street intersection with the implementation of Project 2-16 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The 6th Street/Brannan Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. The 6th Street/Brannan Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at the 6th Street/Brannan Street intersection with the implementation of Project 2-16 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS F in the PM peak hour with more than 80 seconds of delay. The 6th Street/Brannan Street intersection would also operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions. There would be no lane configuration adjustments to the study intersection under Existing plus Project conditions. Hence, there would be no change in

LOS or delay for this intersection, compared to Existing conditions. Therefore, a significant impact would not occur at the 6th Street/Brannan Street intersection with the implementation of Project 2-16 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 6th Street/Brannan Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. The 6th Street/Brannan Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at the 6th Street/Brannan Street intersection with the implementation of Project 2-16 Option 2 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P2-16a:

The 2nd Street/Townsend Street intersection would operate unsatisfactorily at LOS E under 2025 Cumulative plus Project conditions for Option 1. Therefore, a significant impact would occur at the 2nd Street/Townsend Street intersection with the implementation of Project 2-16 Option 1 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P2-16b:

The 2nd Street/Townsend Street intersection would operate unsatisfactorily at LOS E under 2025 Cumulative plus Project conditions for Option 2. Therefore, a significant impact would occur at the 2nd Street/Townsend Street intersection with the implementation of Project 2-16 Option 2 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P2-16c:

Under Existing plus Project conditions for Project 2-16 Option 1, the 7th Street/Townsend Street intersection would operate at LOS F. Therefore, a significant impact would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 1 under Existing plus Project conditions.

Significant Impact TR-P2-16d:

Under Existing plus Project conditions for Project 2-16 Option 2, the 7th Street/Townsend Street intersection would operate at LOS F. Therefore, a significant impact would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 2 under Existing plus Project conditions.

Significant Impact TR-P2-16e:

Under 2025 Cumulative plus Project conditions for Project 2-16 Option 1, the 7th Street/Townsend Street intersection would operate at LOS F. Therefore, a significant impact would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 1 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P2-16f:

Under 2025 Cumulative plus Project conditions for Option 2, the 7th Street/Townsend Street intersection would operate at LOS F. Therefore, a significant impact would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 2 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P2-16g:

Under 2025 Cumulative plus Project conditions for Option 1, the 4th Street/Townsend Street intersection would operate at LOS F. Therefore, a significant impact would occur at the 4th Street/Townsend Street intersection with the implementation of Project 2-16 Option 1 under 2025 Cumulative plus Project conditions.

TRANSIT

Muni bus line 10 runs on Townsend Street between 2nd and 8th Streets, and Muni bus lines 19, 30, 45, 47, 80X, 82X, and 108 run along only short segments of Townsend Street.. Muni bus lines 80X and 82X operate only during the AM peak period. The segment of Townsend Street between 3rd and 4th Streets has the most Muni bus lines (10, 30, 45, 80X, 82X, and 108), with approximately 6 westbound and 22 eastbound buses per hour during the AM peak period and 6 westbound and 30 eastbound buses per hour during the PM peak period. Muni bus lines 30 and 45 use the south side of Townsend Street between 3rd and 4th Streets as a layover area. Amtrak buses use the south side of Townsend Street between 4th and 5th Streets as a layover area in front of the Caltrain Station. Between 4th and 8th Streets, Muni bus volumes reduce significantly. Muni bus line 47 travels only in the westbound direction between 4th and 5th Streets and Muni bus line 19 travels only in the eastbound direction between 8th and 7th Streets.

Due to the relative low to moderate bicycle volumes under Existing conditions, there is little interaction between buses and bicyclists at the bus stop between 3rd and 4th Streets, except occasional conflicts between buses and bicyclists when buses are leaving the stop toward the 3rd Street intersection. In general, buses and bicyclists yield to each other.

Both Option 1 and Option 2 of Project 2-16 would reconfigure the intersection of 4th Street/Townsend Street. The new configuration, with two left turn lanes from southeast bound 4th Street to northeast bound Townsend, may cause a significant impact to Muni bus lines 30 and 45. While these bus lines would be able to make the turn under the new conditions, under certain circumstances they may encroach on the bus zone on the south side of Townsend Street and possibly would encroach on the bicycle lane. For example, when a Muni line 30 bus loads and unloads passengers or lies over in the bus zone[7] immediately adjacent to the east crosswalk at the intersection of 4th Street/Townsend Street, a Muni line 45 bus arriving behind that Muni line 30 bus may be prevented from making the turn. For this reason a significant transit impact would occur for Muni bus lines 30 and 45 with either Option 1 or Option 2 of Project 2-16.

Existing plus Project conditions, Project 2-16 Options 1 and 2

Due to the inability of Muni bus lines 30 and 45 to make left turns, under certain circumstances, from 4th Street to Townsend Street, a significant operational transit impact (Significant Impacts TR-P2-16h, TR-P2-16i, TR-P2-16j, TR-P2-16k) would occur under Existing plus Project conditions with implementation of Option 1 or Option 2 of Project 2-16.

2025 Cumulative plus Project conditions, Project 2-16 Options 1 and 2

Due to the inability of Muni bus lines 30 and 45 to make left turns, under certain circumstances, from 4th Street to Townsend Street, a significant operational transit impact (Significant Impacts TR-P2-16l TR-P2-16m, TR-P2-16n and TR-P2-16o) would occur under 2025 Cumulative plus Project conditions with implementation of Option 1 or Option 2 of Project 2-16.

Significant Impact TR-P2-16h:

A significant transit impact would occur to Muni bus line 30 under Existing plus Project conditions for Project 2-16 Option 1.

Significant Impact TR-P2-16i:

A significant transit impact would occur to Muni bus line 45 under Existing plus Project conditions for Project 2-16 Option 1.

[7] Currently, the south side of Townsend Street is bus zone and a layover area for the length of the block.

Significant Impact TR-P2-16j:

A significant transit impact would occur to Muni bus line 30 under Existing plus Project conditions for Project 2-16 Option 2.

Significant Impact TR-P2-16k:

A significant transit impact would occur to Muni bus line 45 under Existing plus Project conditions for Project 2-16 Option 2.

Significant Impact TR-P2-16l:

A significant transit impact would occur to Muni bus line 30 under 2025 Cumulative plus Project conditions for Project 2-16 Option 1.

Significant Impact TR-P2-16m:

A significant transit impact would occur to Muni bus line 45 under 2025 Cumulative plus Project conditions for Project 2-16 Option 1.

Significant Impact 2-16n:

A significant transit impact would occur to Muni bus line 30 under 2025 Cumulative plus Project conditions for Project 2-16 Option 2.

Significant Impact TR-P2-16o:

A significant transit impact would occur to Muni bus line 45 under 2025 Cumulative plus Project conditions for Project 2-16 Option 2.

Project 2-16 shares Intersection 6: 2nd Street/Townsend Street with Project 2-1: 2nd Street Bicycle Lanes, King Street to Market Street. The transit delay analysis below (Projects 2-1 and 2-16 combined) reflects the combined impact of Projects 2-1 and 2-16 modifications to the 2nd Street/Townsend Street intersection on transit delay.

With combined Projects 2-1and 2-16 for both Option 1 and Option 2, there would be an insignificant impact on transit travel time between The Embarcadero and 7th Street, even with the removal of travel lanes between 2nd and 4th Streets. Consequently, there would be no transit delay impact on Muni bus lines 30, 45, 47, 80X, 82X and 108 for either Existing plus Project or 2025 Cumulative plus Project.

- **Option 1**

Existing and Existing plus Project conditions, combined Projects 2-1 and 2-16
Option 1 would not add delay to Muni bus line 10 westbound, but would add 275 seconds (4.6 minutes) of delay eastbound in the PM peak period. For Muni bus line 19, Option 1 would add 222 seconds (3.7 minutes) of delay eastbound. The headways for Muni bus lines 10 and 19 in the PM peak period are 10 minutes. For Muni bus line 10, the total added delay of 275 seconds (4.6 minutes) would be less than the transit delay threshold of six minutes. For Muni bus line 19, the total added delay of 222 seconds (3.7 minutes) would be less than the transit delay threshold of six minutes. Therefore, a significant transit delay impact would not occur with the implementation of combined Projects 2-1 and 2-16 Option 1 under Existing plus Project conditions.

2025 Cumulative plus Project conditions combined 2-1 and 2-16 Option 1
Option 1 would not change operation for Muni bus line 10 westbound, but would add 248 seconds (4.1 minutes) of delay eastbound. Option 1 would add no delay to Muni bus line 19. The headways for Muni bus lines 10 and 19 in the PM peak period are 10 minutes. For Muni bus line 10, the total added delay of 248 seconds (4.1 minutes) would be less than the transit delay threshold of six minutes. For Muni bus line 19, no delay would be added with Projects 2-1 and 2-16 combined with Option 1. Therefore, a significant transit delay impact would not occur with the implementation of Projects 2-1 and 2-16 combined with Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing plus Project conditions, combined 2-1 and 2-16
Option 2 would not change operation for Muni bus line 10 westbound, but would add 272 seconds (4.5 minutes) of delay eastbound. For Muni bus line 19, Option 2 would add 222 seconds (3.7 minutes) of delay eastbound. The headways for Muni bus lines 10 and 19 in the PM peak period are 10 minutes. For Muni bus line 10, the total added delay of 272 seconds (4.5 minutes) would be less than the transit delay threshold of six minutes. For Muni bus line 19, the total added delay of 222 seconds (3.7 minutes) would be less than the transit delay threshold of six minutes. Therefore, a significant transit delay impact would not occur with the implementation of Option 2 of combined Projects 2-1 and 2-16 under Existing plus Project conditions.

2025 Cumulative plus Project conditions, combined 2-1 and 2-16
Option 2 would not change operation westbound for Muni bus line 10, but would add 16 seconds of delay eastbound. Option 2 would add no delay for Muni bus line 19. The headways for Muni bus lines 10 and 19 in the PM peak period are 10 minutes. For Muni bus line 10, the total added delay of 16 seconds would be less than the transit delay threshold of six minutes. For Muni bus line 19, no delay would be added with Projects 2-1 and 2-16 combined with Option 1. Therefore, a significant transit delay impact would

not occur with the implementation of Projects 2-1 and 2-16 combined with Option 2 under 2025 Cumulative plus Project conditions.

As discussed at the beginning of this transit analysis section, Project 2-16 may result in a significant transit impact for Muni bus lines 30 and 45 due to operational constraints. However, since combined Projects 2-1 and 2-16 do not result in significant transit delay, there would be no significant impacts related to transit delay as a result of individual Project 2-16.

PARKING

On-street parking would be removed on portions of Townsend Street between 4th and 7th Streets. There are approximately 480 parking spaces on both sides of Townsend Street between 8th Street and The Embarcadero. The existing midday parking occupancy rate is over 100 percent because several vehicles were observed to park illegally. Option 1 would result in a loss of approximately 86 parking spaces. Option 2 would result in a loss of approximately 26 parking spaces and a gain of approximately 16 parking spaces, for a net loss of 10 spaces.

The change of pull-in to back-in angled parking would potentially benefit bicyclists by improving approaching bicyclists' visibility to motor vehicle drivers and other traffic, both when drivers are entering and exiting a parking stall. When entering a parking stall by backing in, drivers would be looking backwards towards oncoming traffic and would be more aware of approaching bicyclists. Bicyclists would also be better able to see these vehicles backing into the parking spaces and, therefore, would have ample warning to safely maneuver around these vehicles. When exiting a parking stall, drivers would face the street with a better view of oncoming traffic in comparison to drivers backing out of the pull-in parking stall whose view of oncoming traffic may be obscured by adjacent parked vehicles.

The current parking occupancy rate is very high, and the removal of 86 parking spaces under Option 1 and 16 parking spaces under Option 2 would further increase parking occupancy. San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

In San Francisco, parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social effects need not be treated as significant impacts on the environment. Environmental documents should, however,

address the secondary physical impacts that could be triggered by a social impact. (CEQA Guidelines Section 15131(a).) The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor. Therefore, there would be no significant parking impacts with implementation of Project 2-16.

PEDESTRIAN

Pedestrians were observed to walk on the street between the travel lane and on-street parking either because of the lack of sidewalks or the presence of illegally parked vehicles blocking the existing unpaved path. The formalization of on-street parking would reduce illegal parking, so that vehicles would not block the pedestrian paths, especially on the unpaved path along the Caltrain fence on the south side of Townsend Street between 5th and 7th Streets. Pedestrian volumes are relatively high during the commute periods and midday between 2nd and 4th Streets, so the regulation of on-street parking in this area would be a benefit. Therefore, there would be no significant pedestrian impacts as a result of Project 2-16 with either Option 1 or Option 2.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. The change of pull-in to back-in angled parking would potentially benefit bicyclists by improving approaching bicyclists' visibility to motor vehicle drivers and other traffic, both when drivers are entering and exiting a parking stall. When entering a parking stall by backing in, drivers would be looking backwards towards oncoming traffic and would be more aware of approaching bicyclists. Bicyclists would also be better able to see these vehicles backing into the parking spaces and, therefore, would have ample warning to safely maneuver around these vehicles. When exiting a parking stall, drivers would face the street with a better view of oncoming traffic in comparison to drivers backing out of the pull-in parking stall whose view of oncoming traffic may be obscured by adjacent parked vehicles. Therefore, neither Option 1 nor Option 2 of Project 2-16 would result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

Existing off-street loading zones along Townsend Street would be changed from pull-in to back-in on-street parking to accommodate the loading demand. The back-in parking operation would be safer because delivery vehicles would load and unload at the curb rather than in the street and the driver's visibility when exiting the parking space would improve because the driver would only need to turn 135 degrees rather than 180 degrees in order to see outside the window. Therefore, there would be no significant loading impacts.

CLUSTER 2: SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impact TR-P2-1a:

The intersection of 2nd Street/Bryant Street would operate at LOS F under Existing plus Project conditions for Project 2-1 Option 1.

M-TR-P2-1a:

No feasible mitigation measures have been identified for the 2nd Street/Bryant Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the 2nd Street/Bryant Street intersection with the implementation of Project 2-1 Option 1 under Existing plus Project conditions.

Significant Impact TR-P2-1b:

The intersection of 2nd Street/Bryant Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 1.

M-TR-P2-1b:

No feasible mitigation measures have been identified for the 2nd Street/Bryant Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at 2nd Street/Bryant Street intersection under 2025 Cumulative plus Project conditions with the implementation of Project 2-1 Option 1.

Significant Impact TR-P2-1c:

The intersection of 2nd Street/Harrison Street would operate at LOS F under Existing plus Project conditions for Project 2-1 Option 1.

M-TR-P2-1c:

It is proposed that five seconds of green time be added to the northbound 2nd Street approach and five seconds of green time be reduced from the eastbound Harrison Street approach. This would improve the intersection operations from LOS F to LOS E (a reduction of 54 seconds of average delay). It has been ensured that the minimum green times required for pedestrians to cross the 2nd Street/Harrison Street intersection have been maintained even after the green time adjustments to the signal. Nevertheless, this mitigation measure would not reduce the project impacts to a less than significant level for Project 2-1 Option 1. Table V.2-46, p. V.A.3-333, summarizes these results.

TABLE V.2-46
CLUSTER 2 – PROJECT 2-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR 2ND STREET/HARRISON STREET

Existing plus Project Option 1		Existing plus Project Option 1 with Mitigation Measures		Existing plus Project Option 2		Existing plus Project Option 2 with Mitigation Measures	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	**F**	78.3	E	**>80**	**F**	78.3	E

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-1d:

The intersection of 2nd Street/Harrison Street would operate at LOS F under Existing plus Project conditions for Project 2-1 Option 2.

M-TR-P2-1d:

It is proposed that five seconds of green time be added to the northbound 2nd Street approach and five seconds of green time be reduced from the eastbound Harrison Street approach. This would improve the 2nd Street/Harrison Street intersection operations from LOS F to LOS E (a reduction of 54 seconds of average delay). It has been ensured that the minimum green times required for pedestrians to cross the intersection have been maintained even after the green time adjustments to the signal. Nevertheless, this mitigation measure would not reduce the project impacts to a less than significant level for Project 2-1 Option 2. Table V.2-46, p. V.A.3-333, summarizes these results.

Significant Impact TR-P2-1e:

The intersection of 2nd Street/Harrison Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

M-TR-P2-1e:

It is proposed that five seconds of green time be added to the northbound 2nd Street approach and five seconds of green time be reduced from the eastbound Harrison Street approach, thus improving the 2nd Street/Harrison Street intersection operations and reducing average delay. It has been ensured that the minimum green times required for pedestrians to cross the intersection have been maintained even after the green time adjustments to the signal. Nevertheless, this mitigation measure would not reduce the project impacts to a less-than-significant level for Project 2-1 Option 1. Table V.2-47, p. V.A.3-335, summarizes these results.

Significant Impact TR-P2-1f:

The intersection of 2nd Street/Harrison Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 2.

TABLE V.2-47
CLUSTER 2 – PROJECT 2-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR 2ND STREET/HARRISON STREET

2025 Cumulative plus Project Option 1			2025 Cumulative plus Project Option 1 with Mitigation Measures			2025 Cumulative plus Project Option 2			2025 Cumulative plus Project Option 2 with Mitigation Measures		
Average Delay[a]	LOS[b]	V/C	Average Delay[a]	LOS[b]	V/C	Average Delay[a]	LOS[b]	V/C	Average Delay[a]	LOS[b]	V/C
>80	F	1.33	>80	F	1.32	>80	F	1.33	>80	F	1.32

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

M-TR-P2-1f:

It is proposed that five seconds of green time be added to the northbound 2nd Street approach and five seconds of green time be reduced from the eastbound Harrison Street approach. This will improve the 2nd Street/Harrison Street intersection operations and reduce average delay. It has been ensured that the minimum green times required for pedestrians to cross the intersection have been maintained even after the green time adjustments to the signal. Nevertheless, this mitigation measure will not reduce the project impacts of Project 2-1 Option 2 to a less-than-significant level. Table V.2-48, p. V.A.3-336, summarizes these results.

Significant Impact TR-P2-1g:

The intersection of 2nd Street/Folsom Street would operate at LOS E under Existing plus Project conditions for Project 2-1 Option 1.

M-TR-P2-1g:

The southbound 2nd Street approach shall be modified from a protected phase to a permitted phase with no changes to green time allocation. This will improve the 2nd Street/Folsom Street intersection operations from LOS E to LOS D, with 47.9 seconds of delay. Hence, this mitigation measure would reduce the project impacts of Project 2-1 Option 1 to a less-than-significant level. Table V.2-48, p. V.A.3-336, summarizes these results.

TABLE V.2-48
CLUSTER 2 – PROJECT 2-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR 2ND STREET/FOLSOM STREET

Existing plus Project Option 1		Existing plus Project Option 1 with Mitigation Measures		Existing plus Project Option 2		Existing plus Project Option 2 with Mitigation Measures	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
76.5	**E**	47.9	D	**76.5**	**E**	47.9	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-1h:

The intersection of 2nd Street/Folsom Street would operate at LOS E under Existing plus Project conditions for Project 2-1 Option 2.

M-TR-P2-1h:

The southbound 2nd Street approach shall be modified from a protected phase to a permitted phase with no changes to green time allocation. This will improve the 2nd Street/Folsom Street intersection operations from LOS E to LOS D, with 47.9 seconds of delay. Hence, this mitigation measure would reduce the project impacts of Project 2-1 Option 2 to a less-than-significant level. Table V.2-48, p. V.A.3-336, summarizes these results.

Significant Impact TR-P2-1i:

The intersection of 2nd Street/Folsom Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1Option 1.

M-TR-P2-1i:

It is proposed that the southbound 2nd Street approach be modified from a protected phase to a permitted phase with no changes to green time allocation. This would improve the 2nd Street/Folsom Street intersection operations and reduce the average delay. Nevertheless, this mitigation measure would not reduce the project impacts of Project 2-1 with Option 1 to a less than significant level. Table V.2-49, p. V.A.3-337, summarizes these results.

TABLE V.2-49
CLUSTER 2 – PROJECT 2-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR 2ND STREET/FOLSOM STREET

2025 Cumulative plus Project Option 1			2025 Cumulative plus Project Option 1 with Mitigation Measures			2025 Cumulative plus Project Option 2			2025 Cumulative plus Project Option 2 with Mitigation Measures		
Average Delay[a]	LOS[b]	V/C	Average Delay[a]	LOS[b]	V/C	Average Delay[a]	LOS[b]	V/C	Average Delay[a]	LOS[b]	V/C
>80	**F**	**1.59**	>80	**F**	**1.49**	>80	**F**	**1.59**	>80	**F**	**1.49**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-1j:

The intersection of 2nd Street/Folsom Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 2.

M-TR-P2-1j:

It is proposed that the southbound 2nd Street approach be modified from a protected phase to a permitted phase with no changes to green time allocation. This would improve the 2nd Street/Folsom Street intersection operations and reduce the average delay. Nevertheless, this mitigation measure would not reduce the project impacts of Project 2-1 Option 2 to a less than significant level.

Significant Impact TR-P2-1k:

The intersection of 2nd Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

M-TR-P2-1k:

No feasible mitigation measures have been identified for the 2nd Street/Howard Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the 2nd Street/Howard Street intersection with the implementation of Project 2-1 Option 1.

Significant Impact TR-P2-1l:

The intersection of 2nd Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-1 Option 2.

M-TR-P2-1l:

No feasible mitigation measures have been identified for the 2nd Street/Howard Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the 2nd Street/Howard Street intersection with the implementation of Project 2-1 Option 2.

Significant Impact TR-P2-1m (Projects 2-1 and 2-16 combined):

The intersection of 2nd Street/Townsend Street would operate at LOS E under 2025 Cumulative plus Project conditions for combined Projects 2-1 and 2-16 Option 1.

M-TR-P2-1m:

No feasible mitigation measures have been identified to mitigate for the 2nd Street/Townsend Street intersection under Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the 2nd Street/Townsend Street intersection with the implementation of Option 1 of the combined Projects 2-1 and 2-16.

Significant Impact TR-P2-1n (Projects 2-1 and 2-16 combined):

The intersection of 2nd Street/Townsend Street would operate at LOS E under 2025 Cumulative plus Project conditions for Option 2 of the combined Projects 2-1 and 2-16.

M-TR-P2-1n:

No feasible mitigation measures have been identified to mitigate the 2nd Street/Townsend Street intersection under Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at 2nd Street/Townsend Street intersection with the implementation Option 2 of the combined Projects 2-1 and 2-16.

Significant Impact 2-1o (Projects 2-1 and 2-16 combined):

Muni bus line 10 would experience significant delays as a result of implementation of the combined Projects 2-1 and 2-16 Option 1 under Existing plus Project conditions.

M-TR-P2-1o (Projects 2-1 and 2-16 combined):

The implementation of Option 1 of the combined Projects 2-1 and 2-16 under Existing plus Project conditions would add approximately 863 seconds (14.4 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street / Harrison Street (M-TR-P2-1c through M-TR-P2-1f), and 2nd Street / Folsom Street (M-TR-P2-1g through M-TR-P2-1j), intersections, approximately 27 seconds of delay southbound and 266 seconds (4.4 minutes) of delay northbound would be added to Muni bus line 10. The total added delay of 293 seconds (4.8 minutes) would be less than the transit delay threshold of six minutes. Therefore, impacts to Muni bus line 10 from Option 1 of the combined Projects 2-1 and 2-16 under Existing plus Project conditions would be reduced to a less than significant level.

Significant Impact 2-1p (Projects 2-1 and 2-16 combined):

Muni bus line 10 would experience significant delays as a result of Option 2 of the combined Projects 2-1 and 2-16 under Existing plus Project conditions.

M-TR-P2-1p (Projects 2-1 and 2-16 combined):

The implementation of combined Projects 2-1 and 2-16 Option 2 under Existing plus Project conditions would add approximately 524 seconds (8.7 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street / Harrison Street (M-TR-P2-1c through M-TR-P2-1f), and 2nd Street / Folsom Street (M-TR-P2-1g through M-TR-P2-1j) intersections, approximately 58 seconds of delay southbound and 39 seconds of delay northbound would be added to Muni bus line 10. The total added delay of 97 seconds (1.6 minutes) would be less than the transit delay threshold of six minutes. Therefore, impacts to Muni bus line 10 for Option 2 of the combined Projects 2-1 and 2-16 under Existing plus Project conditions would be reduced to a less than significant level.

Significant Impact 2-1q (Projects 2-1 and 2-16 combined):

Muni bus line 10 would experience significant delays as a result of implementation of Option 1 of the combined Projects 2-1 and 2-16 under 2025 Cumulative plus Project conditions.

M-TR-P2-1q (Projects 2-1 and 2-16 combined):

The implementation of combined Projects 2-1 and 2-16 Option 1 under 2025 Cumulative plus Project conditions would add approximately 672 seconds (11.2 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street / Harrison Street (M-TR-P2-1c through M-TR-P2-1f), and 2nd Street / Folsom Street (M-TR-P2-1g through M-TR-P2-1j) intersections, delay would be reduced by approximately 169 seconds (2.8 minutes) southbound with approximately

625 seconds (10.4 minutes) of delay added northbound to Muni bus line 10. The total added delay of 495 seconds (7.6 minutes) would be greater than the transit delay threshold of six minutes. Therefore, a significant transit impact to Muni bus line 10 would occur resulting from implementation of Option 1 of the combined Projects 2-1 and 2-16 under 2025 Cumulative plus Project conditions.

Significant Impact 2-1r (Projects 2-1 and 2-16 combined):

Muni bus line 10 would experience significant delays as a result of implementation of Option 2 of the combined Projects 2-1 and 2-16 under 2025 Cumulative plus Project conditions.

M-TR-P2-1r (Projects 2-1 and 2-16 combined):

The implementation of Projects 2-1 and 2-16 combined Option 2 under 2025 Cumulative plus Project conditions would add approximately 857 seconds (14.2 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street/Harrison Street (M-TR-P2-1c through M-TR-P2-1f), and 2nd Street / Folsom Street (M-TR-P2-1g through M-TR-P2-1j) intersections, approximately 238 seconds (3.9 minutes) of delay southbound and approximately 402 seconds (6.7 minutes) of delay northbound would be added to Muni bus line 10. The total added delay of 640 seconds (10.6 minutes) would be greater than the transit delay threshold of six minutes. Therefore, a significant transit impact to Muni bus line 10 would occur resulting from implementation of Option 2 of the combined Projects 2-1 and 2-16 under 2025 Cumulative plus Project conditions.

Significant Impact 2-1s:

A significant transit impact to Muni bus line 10 would occur as a result of individual Project 2-1 with Option 1 under Existing plus Project conditions.

M-TR-P2-1s:

The implementation of Project 2-1 only with Option 1 under Existing plus Project conditions would add approximately 845 seconds (14.1 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street/Harrison Street (M-TR-P2-1c through M-TR-P2-1f), and 2nd Street/Folsom Street (M-TR-P2-1g through M-TR-P2-1j) intersections, approximately 27 seconds of delay southbound and 249 seconds (4.2 minutes) of delay northbound would be added to Muni bus line 10. The total added delay of 276 seconds (4.6 minutes) would be less than the transit delay threshold of six minutes. Therefore, impacts to Muni bus line 10 for individual Project 2-1 with Option 1 under Existing plus Project conditions would be reduced to a less than significant level.

Significant Impact 2-1t:

A significant transit impact to Muni bus line 10 would occur as a result of individual Project 2-1 Option 2 under Existing plus Project conditions.

M-TR-P2-1t:

The implementation of individual Project 2-1 Option 2 under Existing plus Project conditions would add approximately 506 seconds (8.4 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street/Harrison Street (M-TR-P2-1c through M-TR-P2-1f), and 2nd Street/Folsom Street (M-TR-P2-1g through M-TR-P2-1j) intersections, approximately 58 seconds of delay southbound and 21 seconds of delay northbound would be added to Muni bus line 10. The total added delay of 79 seconds (1.3 minutes) would be less than the transit delay threshold of six minutes. Therefore, impacts to Muni bus line 10 for individual Project 2-1 Option 2 under Existing plus Project conditions would be reduced to a less than significant level.

Significant Impact 2-1u:

A significant transit impact would occur to Muni bus line 10 as a result of individual Project 2-1 Option 1 under 2025 Cumulative plus Project conditions.

M-TR-P2-1u:

The implementation of individual Project 2-1 Option 1 under 2025 Cumulative plus Project conditions would add approximately 450 seconds (7.5 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street/Harrison Street (M-TR-P2-1c through M-TR-P2-1f), and 2nd Street/Folsom Street (M-TR-P2-1g through M-TR-P2-1j) intersections, delay would be reduced by approximately 170 seconds (2.8 minutes) southbound with approximately 403 seconds (6.7 minutes) of delay added northbound to Muni bus line 10. The total added delay of 233 seconds (3.8 minutes) would be less than the transit delay threshold of six minutes. Therefore, impacts to Muni bus line 10 for individual Project 2-1 Option 1 under 2025 Cumulative plus Project conditions would be reduced to a less than significant level.

Significant Impact 2-1v:

A significant transit impact would occur to Muni bus line 10 as a result of individual Project 2-1 Option 2 under 2025 Cumulative plus Project conditions.

M-TR-P2-1v:

The implementation of Project 2-1 only with Option 2 under 2025 Cumulative plus Project conditions would add approximately 857 seconds (14.2 minutes) of delay for Muni bus line 10. With mitigation as described for the 2nd Street/Harrison Street (M-TR-P2-1c through M-TR-P2-1f), and 2nd Street/Folsom Street (M-TR-P2-1g through M-TR-P2-1j) intersections, approximately 238 seconds (3.9 minutes) of delay southbound and approximately 402 seconds (6.7 minutes) of delay northbound would be added to Muni bus line 10. The total added delay of 640 seconds (10.6 minutes) would be greater than the transit delay threshold of six minutes. Therefore, a significant transit impact to Muni bus line 10 would occur resulting from individual Project 2-1 Option 2 under 2025 Cumulative plus Project conditions.

Significant Impact 2-1w:

A significant impact on passenger loading would occur on 2nd Street between Clementina Street and Folsom Street as a result of Project 2-1 Option 1 under Existing plus Project conditions.

M-TR-P2-1w:

To provide passenger loading for the hotel, on-street parking on Clementina Street (the alley north of the hotel) could be converted to a white passenger zone. This would eliminate double parking activities in the bicycle and/or travel lanes in front of the hotel. Hence, this mitigation measure would reduce project impacts on passenger loading along 2nd Street between Clementina Street and Folsom Street for Project 2-1 with Option 1 under Existing plus Project conditions to a less-than significant level.

Significant Impact 2-1x:

A significant impact on passenger loading would occur along 2nd Street between Clementina Street and Folsom Street as a result of Project 2-1 with Option 2 under Existing plus Project conditions.

M-TR-P2-1x:

To provide passenger loading for the hotel, on-street parking on Clementina Street (the alley north of the hotel) could be converted to a white passenger zone. This would eliminate double parking activities in the bicycle and/or travel lanes in front of the hotel. Hence, this mitigation measure would reduce project impacts on passenger loading for Project 2-1 with Option 2 under Existing plus Project conditions to a less-than significant level.

Significant Impact 2-1y:

A significant impact on passenger loading would occur along 2nd Street between Clementina and Folsom Street as a result of Project 2-1 with Option 1 under 2025 Cumulative plus Project conditions.

M-TR-P2-1y:

To provide passenger loading for the hotel, on-street parking on Clementina Street (the alley north of the hotel) could be converted to a white passenger zone. This would eliminate double parking activities in the bicycle and/or travel lanes in front of the hotel. Hence, this mitigation measure would reduce project impacts on passenger loading for Project 2-1 with Option 1 under 2025 Cumulative plus Project conditions to a less than significant level.

Significant Impact 2-1z:

A significant impact on passenger loading would occur along 2nd Street between Clementina and Folsom Street as a result of Project 2-1 with Option 2 under 2025 Cumulative plus Project conditions.

M-TR-P2-1z:

To provide passenger loading for the hotel, on-street parking on Clementina Street (the alley north of the hotel) could be converted to a white passenger zone. This would eliminate double parking activities in the bicycle and/or travel lanes in front of the hotel. Hence, this mitigation measure would reduce project impacts on passenger loading for Project 2-1 with Option 2 under 2025 Cumulative plus Project conditions to a less-than significant level.

Significant Impact 2-1aa:

A significant impact on commercial freight loading would occur along 2nd Street between Market Street and Bryant Street as a result of Project 2-1 with Option 1 under Existing plus Project conditions.

M-TR-P2-1aa:

No feasible mitigation measures have been identified to mitigate this freight loading impact. Hence, a significant commercial freight loading impact would result with implementation of Project 2-1 with Option 1 under Existing plus Project conditions.

Significant Impact 2-1bb:

A significant impact on commercial freight loading would occur along 2nd Street between Market Street/Bryant Street as a result of Project 2-1 with Option 2 under Existing plus Project conditions.

M-TR-P2-1bb:

No feasible mitigation measures have been identified to mitigate this freight loading impact. Hence, a significant commercial freight loading impact would result along 2nd Street between Market Street and Bryant Street with implementation of Project 2-1 with Option 2 under Existing plus Project conditions.

Significant Impact 2-1cc:

A significant impact on commercial freight loading would occur along 2nd Street between Market Street and Bryant Street as a result of Project 2-1 with Option 1 under 2025 Cumulative plus Project conditions.

M-TR-P2-1cc:

No feasible mitigation measures have been identified to mitigate this freight loading impact. Hence, a significant commercial freight loading impact would result along 2nd Street between Market Street and Bryant Street with implementation of Project 2-1 with Option 1 under 2025 Cumulative plus Project conditions.

Significant Impact 2-1dd:

A significant impact on commercial freight loading would occur along 2nd Street between Market Street and Bryant Street as a result of Project 2-1 with Option 2 under 2025 Cumulative plus Project conditions.

M-TR-P2-1dd:

No feasible mitigation measures have been identified to mitigate this freight loading impact. Hence, a significant commercial freight loading impact would result along 2nd Street between Market Street and Bryant Street with implementation of Project 2-1 with Option 2 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P2-2a:

The intersection of 5th Street/Bryant Street would operate at LOS F under Existing plus Project conditions for Option 1 of Project 2-2.

M-TR-P2-2a:

Three seconds of green time shall be added to the eastbound Bryant Street approach and three seconds of green time shall be reduced from the southbound 5th Street approach. This will improve the 5th Street/Bryant Street intersection operations from LOS F to LOS D, with 52.6 seconds of delay (a reduction of 28.6 seconds of average delay). It has been ensured that the minimum green times required for pedestrians to cross the intersection have been maintained even after the green time adjustments to the signal. In addition, it has been ensured that this modification to the signal timing will not adversely affect signal progression along 5th Street. Hence, this mitigation measure would reduce the impacts of Project 2-2 with Option 1 to a less-than-significant level. Table V.2-50, p. V.A.3-345, summarizes these results.

TABLE V.2-50
CLUSTER 2 – PROJECT 2-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		Existing plus Project Option 1		Existing plus Project Option 1 with Mitigation Measures	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
7.	5th Street/Bryant Street	**>80**	**F**	52.6	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-2b:

The intersection of 5th Street/Bryant Street would operate at LOS F under Existing plus Project conditions for Project 2-2 Option 2.

M-TR-P2-2b:

No feasible mitigation measures have been identified for the 5th Street/Bryant Street intersection under Existing plus Project conditions for Option 2. Hence, a significant impact would occur at the 5th Street/Bryant Street intersection with the implementation of Project 2-2 Option 2.

Significant Impact TR-P2-2c:

The intersection of 5th Street/Bryant Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-2 Option 1.

M-TR-P2-2c:

No feasible mitigation measures have been identified for the 5th Street/Bryant Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the 5th Street/Bryant Street intersection with the implementation of Project 2-2 Option 1.

Significant Impact TR-P2-2d:

The intersection of 5th Street/Bryant Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-2 Option 2.

M-TR-P2-2d:

No feasible mitigation measures have been identified for the 5th Street/Bryant Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the 5th Street/Bryant Street intersection with the implementation of Project 2-2 Option 2.

Significant Impact TR-P2-2e:

The intersection of 5th Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 2.

M-TR-P2-2e:

No feasible mitigation measures have been identified for the 5th Street/Howard Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the 5th Street/Howard Street intersection with the implementation of Project 2-2 Option 2.

Significant Impact TR-P2-2f:

The intersection of 5th Street/Brannan Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-2 Option 2.

M-TR-P2-2f:

No feasible mitigation measures have been identified for the 5th Street/Brannan Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the 5th Street/Brannan Street intersection with the implementation of Project 2-2 Option 2.

Significant Impact TR-P2-3a (Projects 2-3 and 2-11 combined):

The intersection of Church Street/Market Street/14th Street would operate at LOS F under Existing plus Project conditions for Option 1 of combined Projects 2-3 and 2-11.

M-TR-P2-3a:

The phasing for the westbound Market Street approach shall be modified from a permitted phase to a protected phase. This would improve the Church Street/Market Street/14th Street intersection operations from LOS F to LOS D, under Existing plus Project conditions, with 46.2 second of delay. Hence, this mitigation measure would reduce the project impacts for Option 1 to a less-than-significant level. Table V.2-51, p. V.A.3-347, summarizes these results.

TABLE V.2-51
CLUSTER 2 – PROJECT 2-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		Existing plus Project Option 1		Existing plus Project Option 1 with Mitigation Measures	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
52.	Church Street/Market Street/14th Street	>80	**F**	46.2	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-3b: (Projects 2-3 and 2-11 combined):

The intersection of Church Street/Market Street/14th Street would operate at LOS F under 2025 Cumulative plus Project conditions for combined Projects 2-3 and 2-11 Option 1.

M-TR-P2-3b:

No feasible mitigation measures have been identified for the Church Street/Market Street/14th Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at Church Street/Market Street/14th Street intersection with the implementation of combined Project 2-3 and 2-11 Option 1.

Significant Impact TR-P2-4a (Projects 2-4 and 2-6 combined):

The intersection of 10th Street/Brannan Street/Potrero Avenue/Division Street would operate at LOS E under Existing plus Project conditions for Option 1 of combined Projects 2-4 and 2-6.

M-TR-P2-4a:

No feasible mitigation measures have been identified for the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at 10th Street/Brannan Street/Potrero Avenue/Division Street intersection with the implementation of Option 1 of Projects 2-4 and 2-6 combined.

Significant Impact TR-P2-4b: (Projects 2-4 and 2-6 combined):

The intersection of 10th Street/Brannan Street/Potrero Avenue/Division Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1 of Projects 2-4 and 2-6 combined.

M-TR-P2-4b:

No feasible mitigation measures have been identified for the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at this intersection with the implementation of Option 1 of Project 2-4 and 2-6 combined.

Significant Impact TR-P2-4c:

The intersection of Potrero Avenue/16th Street would operate at LOS E under Existing plus Project conditions for Project 2-4 Option 2.

M-TR-P2-4c:

No feasible mitigation measures have been identified for the Potrero Avenue/16th Street intersection under Existing plus Project conditions for Option 2. Hence, a significant impact would occur at Potrero Avenue/16th Street intersection with the implementation of Project 2-4 Option 2.

Significant Impact TR-P2-4d:

The intersection of Potrero Avenue/16th Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-4 Option 2.

M-TR-P2-4d:

No feasible mitigation measures have been identified for the Potrero Avenue/16th Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at Potrero Avenue/16th Street intersection with the implementation of Project 2-4 Option 2.

Significant Impact TR-P2-4e (Projects 2-4 and 2-6 combined):

Muni bus line 9 would experience significant delays with implementation of Option 2 of the combined Projects 2-4 and 2-6 under 2025 Cumulative plus Project conditions.

M-TR-P2-4e:

No feasible mitigation measures have been identified for delay on Muni bus line 9 for Option 2 of the combined Projects 2-4 and 2-6 under 2025 Cumulative plus Project conditions. Hence, a significant impact would occur for Muni bus line 9 with implementation of Option 2 of the combined Projects 2-4 and 2-6.

Significant Impact TR-P2-4f (Projects 2-4 and 2-6 combined):

SamTrans bus line 292 would experience significant delays with implementation of Option 2 of the combined Projects 2-4 and 2-6 under 2025 Cumulative plus Project conditions.

M-TR-P2-4f:

No feasible mitigation measures have been identified for delay on SamTrans bus line 292 for Project 2-4 Option 2 under 2025 Cumulative plus Project conditions. Hence, a significant impact would occur for SamTrans bus line 292 with implementation of Option 2 of the combined Projects 2-4 and 2-6.

Significant Impact TR-P2-4g: Muni bus line 9 would experience significant delays under 2025 Cumulative plus Project conditions for individual Project 2-4 Option 2.

M-TR-P2-4g:

No feasible mitigation measures have been identified for delay on Muni bus line 9 for individual Project 2-4 Option 2 under 2025 Cumulative plus Project conditions. Hence, a significant impact would occur for Muni bus line 9 with implementation of Project 2-4 Option 2.

Significant Impact TR-P2-4h: SamTrans bus line 292 would experience significant delays under 2025 Cumulative plus Project conditions for individual Project 2-4 with Option 2.

M-TR-P2-4h:

No feasible mitigation measures have been identified for delay on SamTrans bus line 292 for Project 2-4 Option 2 under 2025 Cumulative plus Project conditions. Hence, a significant impact would occur for SamTrans bus line 292 with implementation of individual Project 2-4 with Option 2.

Significant Impact TR-P2-6a:

The intersection of 10th Street/Brannan Street/Potrero Avenue/Division Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-6 Option 1.

M-TR-P2-6a:

No feasible mitigation measures have been identified for the 10th Street/Brannan Street/Potrero Avenue/Division Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at 10th Street/Brannan Street/Potrero Avenue/Division Street intersection with the implementation of Project 2-6 Option 1.

Significant Impact TR-P2-6b:

The intersection of 11th Street/Bryant Street/Division Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-6 Option 1.

M-TR-P2-6b:

It is proposed that two seconds of green time be added to the northbound Bryant Street approach and two seconds of green time be reduced from the southbound 11th Street direction; and that 24 seconds of green time be added to the westbound Division Street direction and 24 seconds of green time be reduced from the eastbound 13th Street approach, in order to improve the intersection operations from LOS F to LOS D, with 54.9 seconds of delay. However, 54.9 seconds of delay is close to the threshold of 55 seconds of delay which is deemed unsatisfactory operation. Therefore, this mitigation measure would not reduce the project impacts of Project 2-6 Option 1 to a less than significant level. Table V.2-52, p. V.A.3-351, summarizes these results.

TABLE V.2-52
CLUSTER 2 – PROJECT 2-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		Existing plus Project Option 1		Existing plus Project Option 1 with Mitigation Measures	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
54.	11th Street/Bryant Street/Division Street	>80	**F**	54.9 (55)	D (**E**)

Source: Wilbur Smith Associates, October 2008

Notes:

a Delay in seconds per vehicle.

b Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-6c:

The intersection of 11th Street/Bryant Street/Division Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-6 Option 1.

M-TR-P2-6c:

No feasible mitigation measures have been identified for the 11th Street/Bryant Street/Division Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at 11th Street/Bryant Street/Division Street intersection with the implementation of Project 2-6 Option 1.

Significant Impact TR-P2-7a (Projects 2-7 and 2-9 combined):

The intersection of Fremont Street/Howard Street would operate at LOS E under Existing plus Project conditions for combined Projects 2-7 and 2-9.

M-TR-P2-7a (Projects 2-7 and 2-9 combined):

The cycle length at the Fremont Street/Howard Street intersection shall be increased by 35 seconds (from 60 seconds to 95 seconds), so that the intersection will operate at LOS D with 54.9 seconds of delay. However, 54.9 seconds of delay is close to the threshold of 55 seconds of delay which is deemed unsatisfactory operation. Therefore, this mitigation measure would not reduce the project impacts of combined Projects 2-7 and 2-9 to a less than significant level. Table V.2-53, p. V.A.3-352 summarizes these results.

TABLE V.2-5 3
CLUSTER 2 – PROJECT 2-7
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

	Intersection	Existing plus Project Option 1		Existing plus Project Option 1 with Mitigation Measures	
		Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
48.	Fremont Street/Howard Street	**73.9**	**E**	54.9	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-7b: (Projects 2-7 and 2-9 combined):

The intersection of Fremont Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for combined Projects 2-7 and 2-9.

M-TR-P2-7b (Projects 2-7 and 2-9 combined):

The Fremont Street/Howard Street intersection operates at LOS D with 54.9 seconds of delay under Existing plus Project conditions relative to Existing conditions, with mitigation shown in Mitigation Measure M-TR-P2-7a. This is determined to be a significant impact since it is close to the threshold of 55 seconds of delay which is deemed unsatisfactory operation. As a consequence, a corresponding LOS deterioration is expected at this intersection for 2025 Cumulative plus Project compared to 2025 Cumulative conditions. Therefore, a significant impact would occur at the Fremont Street/Howard Street intersection. Table V.2-53, p. V.A.3-352, and Table V.2-54, p. V.A.3-353 summarize, these results.

TABLE V.2-54
CLUSTER 2 – PROJECT 2-7
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

	Intersection	2025 Cumulative plus Project Option 1		2025 Cumulative plus Project Option 1 with Mitigation Measures	
		Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
48.	Fremont Street/Howard Street	>80	**F**	>80	**F**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-9a:

The Fremont Street/Howard Street intersection would operate unsatisfactorily at LOS E, with 73.9 seconds of delay under Existing plus Project conditions for Project 2-9.

M-TR-P2-9a:

It is proposed that the cycle length at the Fremont Street/Howard Street intersection be increased by 35 seconds (from 60 seconds to 95 seconds). With this improvement, the intersection will operate at LOS D with 54.9 seconds of delay. However, 54.9 seconds of delay is close to the threshold of 55 seconds of delay which is deemed unsatisfactory operation. Therefore, this mitigation measure would not reduce the project impacts of combined Project 2-9 to a less than significant level. Table V.2-55, p. V.A.3-354, summarizes these results.

TABLE V.2-55
CLUSTER 2 – PROJECT 2-9
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

	Intersection	Existing plus Project Option 1 (Project 2-9)		Existing plus Project Option 1 with Mitigation Measures	
		Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
48.	Fremont Street/Howard Street	73.9	E	54.9	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-9b:

The intersection of Fremont Street/Howard Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 2-9.

M-TR-P2-9b:

It is proposed that lane configuration adjustments be made to the westbound Howard Street direction to improve LOS and reduce the delay at the Fremont Street/Howard Street intersection. The westbound Howard Street approach shall be modified from one through lane and one shared through-right turn lane, into two through lanes and one exclusive right-turn lane. The LOS will remain at level F. Therefore, this mitigation measure would not reduce the project impacts of Project 2-9 to a less-than-significant level for 2025 Cumulative plus Project conditions. Table V.2-56, p. V.A.3-355, summarizes these results.

TABLE V.2-56
CLUSTER 2 – PROJECT 2-9
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1		2025 Cumulative plus Project Option 1 (Project 2-9) with Mitigation Measures	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
48.	Fremont Street/Howard Street	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-11a:

The Church Street/Market Street/14th Street intersection would operate at LOS F under Existing plus Project conditions for the PM peak hour. Therefore, a significant impact would occur at the Church Street/Market Street/14th Street intersection with the implementation of Project 2-11 Option 1 under Existing plus Project conditions.

M-TR-P2-11a:

No feasible mitigation measures have been identified for the Church Street/Market Street/14th Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the Church Street/Market Street/14th Street intersection with the implementation of Project 2-11 Option 1.

Significant Impact TR-P2-11b:

The intersection of Church Street/Market Street/14th Street would operate at LOS F under 2025 Cumulative plus Project conditions for 2-11 Option 1 for the PM peak hour.

M-TR-P2-11b:

No feasible mitigation measures have been identified for the Church Street/Market Street/14th Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Church Street/Market Street/14th Street intersection with the implementation of Project 2-11.

Significant Impact TR-P2-11c:

A significant impact to loading would result on Market Street near Noe Street from implementation of Project 2-11 Option 1 under Existing plus Project conditions.

M-TR-P2-11c:

No feasible mitigation measures have been identified. Therefore, a significant loading impact would occur on Market Street near Noe Street with implementation of Project 2-11 Option 1 under Existing plus Project conditions.

Significant Impact TR-P2-11d:

A significant impact to loading would result on Market Street near Noe Street from implementation of Project 2-11 Option 1 under 2025 Cumulative plus Project conditions.

M-TR-P2-11d:

No feasible mitigation measures have been identified. Therefore, a significant loading impact would occur on Market Street near Noe Street with implementation of Project 2-11 Option 1 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P2-16a:

The 2nd Street/Townsend Street intersection would operate unsatisfactorily at LOS E under 2025 Cumulative plus Project conditions for Option 1. Therefore, a significant impact would occur at the 2nd Street/Townsend Street intersection with the implementation of Project 2-16 Option 1 under 2025 Cumulative plus Project conditions.

M-TR-P2-16a:

No feasible mitigation measures have been identified for the 2nd Street/Townsend Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at 2nd Street/Townsend Street intersection with the implementation of Project 2-16 Option 1.

Significant Impact TR-P2-16b:

The 2nd Street/Townsend Street intersection would operate unsatisfactorily at LOS E under 2025 Cumulative plus Project conditions for Option 2. Therefore, a significant impact would occur at the 2nd Street/Townsend Street intersection with the implementation of Project 2-16 Option 2 under 2025 Cumulative plus Project conditions.

M-TR-P2-16b:

No feasible mitigation measures have been identified for the 2nd Street/Townsend Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the 2nd Street/Townsend Street intersection with the implementation of Project 2-16 Option 2..

Significant Impact TR-P2-16c:

Under Existing plus Project conditions for Project 2-16 Option 1, the 7th Street/Townsend Street intersection would operate at LOS F. Therefore, a significant impact would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 1 under Existing plus Project conditions.

M-TR-P2-16c:

Six seconds of green time shall be added to the eastbound Townsend Street approach and six seconds of green time shall be reduced from the northbound 7th Street approach, to improve the 7th Street/Townsend Street intersection operations from LOS F to LOS D, with 35.2 seconds of delay. It has been ensured that the minimum green times required for pedestrians to cross the intersection have been maintained even after the green time adjustments to the signal. Hence, this mitigation measure would reduce the project impacts of Project 2-16 Option 1 to a less than significant level. Table V.2-57, p. V.A.3-357, summarizes these results.

TABLE V.2-57
CLUSTER 2 – PROJECT 2-16
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR 7TH STREET/TOWNSEND STREET

Existing plus Project Option 1		Existing plus Project Option 1 with Mitigation Measures		Existing plus Project Option 2		Existing plus Project Option 2 with Mitigation Measures	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	**F**	35.2	D	>80	**F**	35.2	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-16d:

Under Existing plus Project conditions for Project 2-16 Option 2, the 7th Street/Townsend Street intersection would operate at LOS F. Therefore, a significant impact would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 2 under Existing plus Project conditions.

M-TR-P2-16d:

Six seconds of green time shall be added to the eastbound Townsend Street approach and six seconds of green time shall be reduced from the northbound 7th Street approach, to improve the 7th Street/Townsend Street intersection operations from LOS F to LOS D, with 35.2 seconds of delay. It has been ensured that the minimum green times required for pedestrians to cross the intersection have been maintained even after the green time adjustments to the signal. Hence, this mitigation measure would reduce the project impacts of Project 2-16 Option 2 to a less than significant level. Table V.2-55, p. V.A.3-, summarizes these results.

Significant Impact TR-P2-16e:

Under 2025 Cumulative plus Project conditions for Project 2-16 Option 1, the 7th Street/Townsend Street intersection would operate at LOS F. Therefore, a significant impact would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 1 under 2025 Cumulative plus Project conditions.

M-TR-P2-16e:

It is proposed that lane configuration adjustments be made to the eastbound Townsend Street direction to improve LOS and decrease the amount of average delay. Assuming that the existing railroad alignment would be removed, the eastbound Townsend Street approach would be modified from one shared through-left turn lane and one exclusive right-turn lane to one shared through-left turn lane and one shared through-right turn lane. Hence, this lane adjustment decreases the amount of average delay and reduces the V/C ratio by 78 percent (from 5.52 to 1.24). This would improve intersection operations. Nevertheless, a significant impact would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 1 under 2025 Cumulative conditions. Table V.2-58, p. V.A.3-359, summarizes these results.

TABLE V.2-58
CLUSTER 2 – PROJECT 2-16
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR 7TH STREET/TOWNSEND STREET

2025 Cumulative plus Project Option 1			2025 Cumulative plus Project Option 1 with Mitigation Measures			2025 Cumulative plus Project Option 2			2025 Cumulative plus Project Option 2 with Mitigation Measures		
Average Delay[a]	LOS[b]	V/C	Average Delay[a]	LOS[b]	V/C	Average Delay[a]	LOS[b]	V/C	Average Delay[a]	LOS[b]	V/C
>80	**F**	5.52	>80	**F**	1.24	>80	**F**	5.52	>80	**F**	1.24

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-16f:

Under 2025 Cumulative plus Project conditions for Option 2, the 7th Street/Townsend Street intersection would operate at LOS F. Therefore, a significant impact would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 2 under 2025 Cumulative plus Project conditions.

M-TR-P2-16f:

It is proposed that lane configuration adjustments be made to the eastbound Townsend Street direction to improve LOS and decrease the amount of average delay. Assuming that the existing railroad alignment would be removed, the eastbound Townsend Street approach would be modified from one shared through-left turn lane and one exclusive right-turn lane to one shared through-left turn lane and one shared through-right turn lane. Hence, this lane adjustment decreases the amount of average delay and reduces the V/C ratio by 78 percent (from 5.52 to 1.24). This would improve intersection operations. Nevertheless, a significant impact would occur at the 7th Street/Townsend Street intersection with the implementation of Project 2-16 Option 2 under 2025 Cumulative conditions. Table V.2-58, p. V.A.3-359, summarizes these results.

Significant Impact TR-P2-16g:

Under 2025 Cumulative plus Project conditions for Option 1, the 4th Street/Townsend Street intersection would operate at LOS F. Therefore, a significant impact would occur at the 4th Street/Townsend Street intersection with the implementation of Project 2-16 Option 1 under 2025 Cumulative plus Project conditions.

M-TR-P2-16g:

The westbound Townsend Street approach shall be modified from a permitted phase to a protected signal phase. In addition, five seconds of green time shall be added to the westbound Townsend Street approach and five seconds of green time shall be reduced from the southbound 4th Street approach. This would improve the 4th Street/Townsend Street intersection operations from LOS F to LOS D, with 42.2 seconds of delay. It has been ensured that the minimum green times required for pedestrians to cross the intersection have been maintained even after the green time adjustments to the signal. Hence, this mitigation measure would reduce the project impacts of Project 2-16 Option 1 to a less than significant level. Table V.2-59, V.A.3-360, summarizes these results.

TABLE V.2-59
CLUSTER 2 – PROJECT 2-16
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1		2025 Cumulative plus Project Option 1 with Mitigation Measures	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
15.	4th Street/Townsend Street	>80	**F**	42.2	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P2-16h:

A significant transit impact would occur to Muni bus line 30 under Existing plus Project conditions for Project 2-16 Option 1.

M-TR-P2-16h:

Feasibility of the following mitigation measures has not yet been determined. There is a range of potential treatments to address the issue at this intersection. One would be repositioning of the bus zone along the south side of Townsend Street. Another treatment would be reconfiguring the approach lanes to the intersection of 4th and Townsend Streets. Finally, installation of discontinuous bicycle lanes at the approach of the intersection could also be

considered. Therefore, a significant transit impact would occur with implementation of Project 2-16 Option 1 under Existing plus Project conditions.

Significant Impact TR-P2-16i:

A significant transit impact would occur to Muni bus line 45 under Existing plus Project conditions for Project 2-16 Option 1.

M-TR-P2-16i:

Refer to Mitigation Measure 2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, a significant transit impact would occur to Muni bus line 45 under Existing plus Project conditions for Project 2-16 Option 1.

Significant Impact TR-P2-16j:

A significant transit impact would occur to Muni bus line 30 under Existing plus Project conditions for Project 2-16 Option 2.

M-TR-P2-16j:

Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, a significant transit impact would occur to Muni bus line 30 under Existing plus Project conditions for Project 2-16 Option 2.

Significant Impact TR-P2-16k:

A significant transit impact would occur to Muni bus line 45 under Existing plus Project conditions for Project 2-16 Option 2.

M-TR-P2-16k:

Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, a significant transit impact would occur to Muni bus line 45 under Existing plus Project conditions for Project 2-16 Option 2.

Significant Impact TR-P2-16l:

A significant transit impact would occur to Muni bus line 30 under 2025 Cumulative plus Project conditions for Project 2-16 Option 1.

M-TR-P2-16l:

Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, a significant transit impact would

occur to Muni bus line 30 under 2025 Cumulative plus Project conditions for Project 2-16 Option 1.

Significant Impact TR-P2-16m:

A significant transit impact would occur to Muni bus line 45 under 2025 Cumulative plus Project conditions for Project 2-16 Option 1.

M-TR-P2-16m:

Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, a significant transit impact would occur to Muni bus line 45 under 2025 Cumulative plus Project conditions for Project 2-16 Option 1.

Significant Impact 2-16n:

A significant transit impact would occur to Muni bus line 30 under 2025 Cumulative plus Project conditions for Project 2-16 Option 2.

M-TR-P2-16n:

Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, significant transit impact would occur to Muni bus line 30 under 2025 Cumulative plus Project conditions for Project 2-16 Option 2.

Significant Impact TR-P2-16o:

A significant transit impact would occur to Muni bus line 45 under 2025 Cumulative plus Project conditions for Project 2-16 Option 2.

M-TR-P2-16o:

Refer to Mitigation Measure M-TR-P2-16h above for mitigation of this transit impact. However, without determination of the feasibility of these measures, a significant transit impact would occur to Muni bus line 45 under 2025 Cumulative plus Project conditions for Project 2-16 Option 2.

CLUSTER 3: CIVIC CENTER/WESTERN ADDITION[1]

This section provides a description of the Existing plus Project and 2025 Cumulative and 2025 Cumulative plus Project transportation conditions within the near-term improvements in Cluster 3. Project 3-6 was implemented prior to the Bicycle Plan injunction. Projects 3-1 and 3-3 have one design option; the remaining projects (Projects 3-2, 3-4, and 3-5) have two design options.

Figures showing the turning movement traffic volumes and lane configurations at the study intersections in Cluster for Existing plus Project, 2025 Cumulative, and 2025 Cumulative plus Project conditions may be found within the transportation impact analysis discussion for Cluster within the Transportation Impact Study. Level of service calculation sheets for those intersections and transit delay calculation sheets for affected transit routes may be found in the appendices of the Transportation Impact Study.[2]

PROJECT 3-1: FELL STREET AND MASONIC AVENUE INTERSECTION IMPROVEMENTS

In response to the large number of reported collisions and in order to improve pedestrian and bicycle safety at the intersection of Fell Street and Masonic Avenue, the City requested relief from the Bicycle Plan injunction to implement Project 3-1 prior to the completion of the Bicycle Plan EIR. In May 2008, the court granted the City's motion to modify the injunction so as to allow implementation of the recommended safety improvements at the intersection of Fell and Masonic. Modifications to the existing traffic signal and lane configuration of the intersection were made, and as of September 16, 2008 SFMTA has implemented Project 3-1. Therefore, the environmental analysis of Project 3-1 is being presented as part of the Bicycle Plan EIR for informational purposes.

Project 3-1 involved signal phasing and timing changes that would eliminate the conflict between Fell Street westbound left-turn vehicles and pedestrians and bicycles crossing Masonic Avenue on the south side of Fell Street. The Fell/Masonic intersection traffic signal phasing was changed to provide exclusive phases for westbound Fell Street left turns and for Panhandle Pathway traffic. Pedestrians and bicyclists crossing the south leg of Masonic Avenue receive the WALK/GREEN BIKE signal during the Fell Street through traffic phase. During the WALK/GREEN BIKE phase to cross Masonic Avenue on the south side of Fell Street, traffic on

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1 Unless otherwise indicated, all intersection analysis is for PM Peak Hour conditions.

2 Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study*. This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File No 2007.0347E.

westbound Fell Street wishing to make a left turn onto southbound Masonic Avenue receives a red left-turn arrow signal, restricting them from making this left turn. Before the Fell Street through phase, vehicles on Fell Street waiting to turn left onto Masonic Avenue receive a green left-turn arrow, while pedestrians and bicyclists waiting to use the south crosswalk across Masonic Avenue would see a solid DON'T WALK/RED BIKE signal.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour. One study intersection is included for the PM peak hour for Project 3-1. Tables V.3-5 and V.3-6, p. V.A.3-366 and p. V.A.3-371, respectively, summarize the results for this intersection.

TABLE V.3-4
CLUSTER 3 – PROJECTS 3-1 AND 3-2
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR MASONIC AVENUE/FELL STREET EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing plus Project Option 1				Existing plus Project Option 2			
Existing		Project 3-1		Combined Projects 3-1 and 3-2		Project 3-1		Combined Projects 3-1 and 3-2	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
24.6	C	20.7	C	**68.7**	**E**	-	-	54.0	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Intersection 43: Masonic Avenue/Fell Street

The Masonic Avenue/Fell Street intersection is common to Projects 3-1 and 3-2 within the Cluster 3 area. Option 1 is the only proposed option for Project 3-1. However, two options are proposed as part of Project 3-2. For Project 3-1 the lane configuration in the westbound direction would be modified. However, for Project 3-2 the southbound lane configuration is proposed to be modified. The analysis below reflects the combined impact of implementing Projects 3-1 and 3-2 at this intersection. The impacts resulting from the implementation of Project 3-1 alone follow the discussion of the combined impacts. A table summarizing the cumulative impacts under weekday PM peak hours for the two options is included below. These results are summarized in Table V.3-6, p. V.A.3-371.

- **Option 1**

Existing and Existing plus Project Conditions for Projects 3-1 and 3-2 combined
Under Existing conditions, this intersection operates at LOS C with 24.6 seconds of delay. The Masonic Avenue/Fell Street intersection would operate unsatisfactorily at LOS E, with 68.7 seconds of average delay under Existing plus Project conditions. The southbound lane configuration would be modified from two through lanes, one shared through-right turn lane, and one exclusive right-turn lane to one through lane and an exclusive right-turn lane. The westbound lane configuration would be modified from two through lanes, one shared through-right turn lane and one shared through-left turn lane to three through lanes, one shared through-right turn lane and one exclusive left-turn lane. Due to the reduction of capacity in the southbound direction and the lane configuration adjustment along the westbound approach, the average intersection delay would increase compared to Existing conditions. Because the southbound critical movements would either deteriorate or would operate at an unacceptable LOS F with more than 80 seconds of average delay under Existing plus Project conditions, therefore, a significant impact (Significant Impact TR-P3-1a) would occur at the Masonic Avenue/Fell Street intersection with the implementation of Option 1 of Projects 3-1 and 3-2 combined. See Table V.3-4 on p. V.A.3-364 for a summary of results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 3-1 and 3-2 combined
The Masonic Avenue/Fell Street intersection would operate satisfactorily at LOS C, with 27.7 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, the Masonic Avenue/Fell Street intersection would operate unsatisfactorily at LOS E compared to LOS C for the 2025 Cumulative conditions. Deterioration of the southbound critical movement at Masonic Avenue/Fell Street to LOS F, when comparing Existing plus Project to Existing Conditions, is deemed a significant impact. As a consequence, a corresponding LOS deterioration is expected at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P3-1b) would occur at the Masonic Avenue/Fell Street intersection with implementation of Option 1 of Projects 3-1 and 3-2 combined. Table V.3-5, p. V.A.3-366, and Table V.3-6, p. V.A.3-371, summarize the results for Project 3-1 and Projects 3-1 and 3-2 combined. See Table V.3-5 on p. V.A.3-366 for a summary of results.

TABLE V.3-5
CLUSTER 3 – PROJECTS 3-1 AND 3-2
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR MASONIC AVENUE/FELL STREET 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 3-1		Combined Projects 3-1 and 3-2		Project 3-1		Combined Projects 3-1 and 3-2	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
27.7	C	22.6	C	**78.3**	**E**	-	-	**59.9**	**E**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 3-1 and 3-2 combined
Since Project 3-1 has only one option, the Existing plus Project conditions for Option 2 of Projects 3-1 and 3-2 combined are the same as for the Existing plus Project conditions for Project 3-2 Option 2. Please refer to the analysis under Existing plus Project conditions for Project 3-2 Option 2.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 3-1 and 3-2 combined
Since Project 3-1 has only one option, the 2025 Cumulative plus Project conditions for Option 2 of Projects 3-1 and 3-2 combined are the same as for the 2025 Cumulative plus Project conditions for Project 3-2 Option 2. Please refer to the analysis under 2025 Cumulative plus Project conditions for Project 3-2 Option 2.

Existing and Existing plus Project Conditions for Project 3-1
Under Existing conditions, this intersection operates at LOS C with 24.6 seconds of delay. The Masonic Avenue/Fell Street intersection would operate satisfactorily at LOS C, with 20.7 seconds of average delay under Existing plus Project conditions. The southbound lane configuration would remain the same as under Existing conditions. However, the westbound lane configuration would be modified from two through lanes, one shared through-right turn lane and one shared through-left turn lane to three through lanes, one shared through-right turn lane and one exclusive left-turn lane. Due to the additional capacity provided under Existing plus Project conditions, the delay at this intersection would be reduced and it would continue to operate at an acceptable

LOS. Therefore, no significant impacts would occur at the Masonic Avenue/Fell Street intersection with the implementation of individual Project 3-1.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 3-1
The Masonic Avenue/Fell Street intersection would operate satisfactorily at LOS C, with 27.7 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions for the analysis of Project 3-1, the Masonic Avenue/Fell Street intersection would operate satisfactorily at LOS C with 22.6 seconds of delay. The southbound lane configuration remains the same as under Existing conditions. However, the westbound lane configuration would be modified from two through lanes, one shared through-right turn lane and one shared through-left turn lane to three through lanes, one shared through-right turn lane and one exclusive left-turn lane. Due to the additional capacity provided under 2025 Cumulative plus Project conditions, the delay at this intersection would be reduced and it would continue to operate at an acceptable LOS. Therefore, no significant impacts would occur at the Masonic Avenue/Fell Street intersection with the implementation of individual Project 3-1 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P3-1a (Projects 3-1 and 3-2 combined):

The intersection of Masonic Avenue/Fell Street would operate at LOS E under Existing plus Project conditions for Option 1 of Projects 3-1 and 3-2 combined.

Significant Impact TR-P3-1b: (Projects 3-1 and 3-2 combined):

The intersection of Masonic Avenue/Fell Street would operate at LOS E under 2025 Cumulative plus Project conditions for combined Projects 3-1 and 3-2 Option 1.

TRANSIT

Muni bus line 43 runs in both directions along Masonic Avenue with approximately six buses per hour each way during the AM and PM peak periods. Muni bus lines 16AX and 16BX operate on Fell Street in the westbound direction only in the PM peak period with approximately eight buses per hour. There are no bus stops at this intersection.

With the signal timing changes, the green time for the westbound approach would increase from the current 31 seconds to 34 seconds during the AM peak period and decrease from the current 48 seconds to 43 seconds during the PM peak period. During the PM peak hour, the green time for the north-south movement would increase by eight seconds.

Project 3-1 shares a common intersection (Intersection 43: Masonic Avenue/Fell Street) with Project 3-2; Masonic Avenue Bicycle Lanes, Fell Street to Geary Boulevard. The transit delay

analysis below (Projects 3-1 and 3-2 combined) reflects the combined impact of Projects 3-1 and 3-2 Option 1 modifications to the Masonic Avenue/Fell Street intersection on transit delay.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 3-1 and 3-2 combined
  Projects 3-1 and 3-2 Option 1 combined would decrease Muni bus line 43 travel time by approximately 14 seconds northbound and 5 seconds southbound in the PM peak hour when compared to Existing conditions. However, Projects 3-1 and 3-2 Option 1combined would add approximately 60 seconds of delay for westbound lines 16AX and 16BX. The headway for Muni bus lines 16AX, 16BX, and 43 in the PM peak period are 10, 11, and 10 minutes, respectively; no delay would be added to Muni bus line 43 while 60 seconds (1 minute) of total delay would be added to Muni bus lines 16AX and 16BX; the total added delay of 60 seconds (1 minute) for Muni bus lines 16AX and 16BX resulting from Projects 3-1 and 3-2 combined would be less than the transit delay threshold of six minutes. Therefore, a significant transit impact would not occur for Muni bus lines 16AX, 16BX, and 43 with the implementation of Projects 3-1 and 3-2 Option 1 combined under Existing plus Project conditions.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 3-1 and 3-2 combined
  Under 2025 Cumulative plus Project conditions, Muni 43 northbound bus travel time in the PM peak hour would decrease by approximately 13 seconds while approximately 6 seconds would be added to southbound buses during the PM peak hour. However, Projects 3-1 and 3-2 combined would add approximately 219 seconds (3.7 minutes) of delay for westbound buses 16AX and 16BX in the PM peak hour. no delay would be added to Muni bus line 43 while 219 seconds (3.7 minutes) of total delay would be added to Muni bus lines 16AX and 16BX; the total added delay of 219 seconds (3.7 minutes) for Muni bus lines 16AX and 16BX resulting from Projects 3-1 and 3-2 combined would be less than the transit delay threshold of six minutes. Therefore, a significant transit impact would not occur for Muni bus lines 16AX, 16BX, and 43 with the implementation of Projects 3-1 and 3-2 combined under 2025 Cumulative plus Project conditions.

  Since there are no significant transit impacts under Existing plus Project and 2025 Cumulative plus Project conditions for Projects 3-1 and 3-2 Option 1 combined, there would be no significant transit impact from individual Project 3-1.

PARKING

Project 3-1 would remove a total of approximately four on-street parking spaces on the south side of Fell Street east of Masonic Avenue. Parking occupancy in this area is relatively high. In San Francisco, parking supply is not considered a permanent physical condition, and changes in

the parking supply would not be a significant environmental impact under CEQA, but rather a social effect. The loss of parking may cause potential indirect physical effects, which would include cars circling and looking for a parking space in neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to some drivers, aware of constrained parking conditions in a given area, shifting travel modes. Hence, any secondary environmental impacts that may result from a shortfall in parking would be minor. Therefore, any net reduction in on-street parking supply would not result in significant parking impacts. Hence, any secondary environmental impacts that may result from the loss of four parking spaces by Project 3-1 would be minor. Therefore, there would be no significant parking impacts with implementation of Project 3-1.

PEDESTRIAN

Project 3-1 would reduce conflicts between pedestrians and bicyclists crossing Masonic Avenue and motor vehicles turning left from westbound Fell Street onto southbound Masonic Avenue by providing a signal phase for pedestrians and bicyclists separate from left-turning motor vehicles. Interactions between pedestrians and bicyclists would be improved with the elimination of left-turning motor vehicles. Given the volume of pedestrian and bicycle traffic at this crossing, there is ample width for these modes to safely share the crossing. In addition, the separate signal phase will allow pedestrians and bicyclists to concentrate on their interactions without concern for the hazard of left-turning motor vehicles. The pedestrian crossing time across Fell Avenue would increase from 30 seconds to 38 seconds during the PM peak hour, which would be beneficial for pedestrians. The crossing time across Masonic Avenue would decrease from 51 seconds to 39 seconds on the north side of the crosswalk and decrease to 25 seconds on the south side crosswalk. The curb to curb width of Masonic Avenue is 62 feet. The available green time with Project 3-1 would be sufficient for pedestrians to make this crossing. Therefore, there would be no significant pedestrian impacts with implementation of Project 3-1.

BICYCLE

Project 3-1 would reduce conflicts between bicyclists crossing Masonic Avenue and vehicles turning left from westbound Fell Street onto southbound Masonic Avenue by providing separate signal phases for these two movements. The reduction in the east-west crossing time for bicycles would be the same as that of pedestrians. Therefore, there would be no significant bicycle impacts with implementation of Project 3-1.

LOADING

This intersection is located near the Panhandle and there are few loading needs associated with this parkland. The on-street parking removal would not include on-street yellow commercial freight loading spaces. Therefore, there would be no loading impacts with implementation of Project 3-1.

PROJECT 3-2: MASONIC AVENUE BICYCLE LANES, FELL STREET TO GEARY BOULEVARD

There are two options for this segment of Masonic Avenue. In general, Option 1 would create a Class II bicycle lane during the peak period in the peak direction only and Option 2 would create a shared bus bicycle lane all day long. Both options would require either parking removal or travel lane reduction.

- **Option 1**
  Between Geary Boulevard and Anza/O'Farrell Streets, Option 1 would remove one southbound travel lane and add a southbound Class II bicycle lane. It would add a northbound Class II bicycle lane by removing 15 on-street parking spaces on the east side of Masonic Avenue. Option 1 would also add a "Tow-Away Lane Must Turn Right" regulation between 4:00 p.m. and 7:00 p.m. on northbound Masonic Avenue at Geary Boulevard.

  Between Anza/O'Farrell Streets and Hayes Street, Option 1 would create a two-way turn lane in the center and add a four-foot wide Class II bicycle lane in both directions. During the AM peak period (7:00 a.m. to 9:00 a.m.), two northbound lanes and one southbound lane would be provided and during the PM peak period (4:00 a.m. to 6:00 a.m.), there would be two southbound lanes and one northbound lane. During off peak period, there would be one lane in both directions.

- **Option 2**
  Between Hayes and Fell Streets, Option 1 would have similar features as the other parts of the corridor. It would remove one travel lane in the northbound direction and two travel lanes in the southbound direction. PM peak period tow-away would be rescinded on the west side of Masonic Avenue, resulting in the increased of eight parking spaces during the PM peak hour.

  Between Geary Boulevard and Anza Street, Option 2 would remove all on-street parking on the east side of Masonic Avenue and on-street parking at all times from mid-block to Anza Street on the west side.

  Between Anza/O'Farrell Streets and Hayes Street, Option 2 would remove on-street parking on both sides of Masonic Avenue between 7:00 a.m. and 6:00 p.m. and designate

the nine-foot six-inch to 10-foot wide curb lanes as shared bus and bicycle lanes in both directions.

Between Hayes and Fell Streets, Option 2 would remove one southbound through right lane, remove the PM tow-away zone, and add a five-foot southbound Class II bicycle lane. This option would remove approximately 6 on-street parking spaces and would add a six-foot northbound Class II bicycle lane from Fell Street to mid-block on the east side. Rescinding the afternoon tow-away zone would result in a gain of approximately five parking spaces during afternoon hours. A northbound right-turn lane would also be added at the approach to Hayes Street.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the AM and PM peak hour. Tables V.3-6 on p. V.A.3-371, V.3-7 on p. V.A.3-372, V.3-8 on p. V.A.3-372, and V.3-9 on p. V.A.3-373, summarize the results for this intersection.

TABLE V.3-6
CLUSTER 3 – PROJECT 3-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS	Average Delay[a]	LOS
59.	Masonic Avenue/Turk Street	19.8	B	28.1	C	22.8	C
60.	Masonic Avenue/Fulton Street	16.1	B	22	C	18.6	B

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

TABLE V.3-7
CLUSTER 3 – PROJECT 3-2[c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
43.	Masonic Avenue/Fell Street[c]	24.6	C	**68.7**	**E**	54.0	D[d]
44.	Masonic Avenue/Geary Boulevard	38.2	D	48.4	D	38.2	D
59.	Masonic Avenue/Turk Street	19.5	B	47.6	D	20.8	C
60.	Masonic Avenue/Fulton Street	18.7	B	28	C	18.6	B

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for combined impacts for Projects 3-1 and 3-2.
d Since Project 3-1 has only one option, this LOS refers to Project 3-2 Option 2 conditions.

TABLE V.3-8
CLUSTER 3 – PROJECT 3-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS – WEEKDAY AM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
59.	Masonic Avenue/Turk Street	**>80**	**F**	**>80**	**F**	**>80**	**F**
60.	Masonic Avenue/Fulton Street	**58.3**	**E**	**>80**	**F**	**>80**	**F**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.3-9
CLUSTER 3 – PROJECT 3-2[C]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS — WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
43.	Masonic Avenue/Fell Street[c]	27.7	C	**78.3**	**E**	**59.9**	**E[d]**
44.	Masonic Avenue/Geary Boulevard	41.8	D	**68.7**	**E**	41.8	D
59.	Masonic Avenue/Turk Street	26.8	C	**>80**	**F**	31	C
60.	Masonic Avenue/Fulton Street	23.1	C	47	D	26.6	C

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for combined impacts for Projects 3-1 and 3-2.
d Since Project 3-1 has only one option, this LOS refers to Project 3-2 Option 2 conditions.

TABLE V.3-10
CLUSTER 3
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR MASONIC AVENUE/FELL STREET EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

Existing		Existing plus Project Option 1				Existing plus Project Option 2			
		Project 3-2		Combined		Project 3-2		Combined	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
24.6	C	**70.1**	**E**	**68.7**	**E**	**55.4**	**E**	54.0	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.3-11
CLUSTER 3
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR MASONIC AVENUE/FELL STREET 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 3-2		Combined		Project 3-2		Combined	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
27.7	C	>80	**F**	78.3	**E**	64.2	**E**	59.9	**E**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Intersection 43: Masonic Avenue/Fell Street

The Masonic Avenue/Fell Street intersection is common to Projects 3-1 and 3-2 within the Cluster 3 area. This intersection was analyzed for impacts in the PM peak hour. Only one option is proposed for Project 3-1. However, two options are proposed as part of Project 3-2. The analysis for the combined impact of implementing Projects 3-1 and 3-2 Option 1 at this intersection was previously provided. The impacts resulting from the implementation of individual Project 3-2 are discussed below. The study results for the Masonic Avenue/Fell Street intersection LOS are presented in Table V.3-10, p. 373 and Table V.3-11, p. 374 for both Existing plus Project and Cumulative plus Project conditions, under both Option 1 and 2.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 3-1 and 3-2 combined
  Please see the discussion of combined project impacts under Project 3-1.

  Existing and Existing plus Project Conditions for Project 3-2
  Under Existing conditions, this intersection operates at LOS C in the PM Peak hour with 24.6 seconds of delay. The Masonic Avenue/Fell Street intersection would operate unsatisfactorily at LOS E, with 70.1 seconds of average delay under Existing plus Project conditions. The southbound lane configuration would be modified from two through lanes, a shared through-right lane and an exclusive right lane to a through lane and an exclusive right-turn lane under Existing plus Project conditions. However, the westbound lane configuration would remain the same as Existing conditions. Because the southbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus

Project conditions, a significant impact (Significant Impact TR-P3-2e) would occur at the Masonic Avenue/Fell Street intersection with the implementation of Project 3-2 Option 1. Table V.3-10, p. V.A.3-373 summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 3-1 and 3-2 combined

Please see the discussion of combined project impacts under Project 3-1.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 3-2

The Masonic Avenue/Fell Street intersection would operate satisfactorily at LOS C, with 27.7 seconds of average delay under 2025 Cumulative conditions in the PM Peak Hour. Under 2025 Cumulative plus Project conditions, the Masonic Avenue/Fell Street intersection would operate unsatisfactorily at LOS F with more than 80 seconds of delay. The southbound lane configuration would be modified from two through lanes, a shared through-right lane and an exclusive right lane to a through lane and an exclusive right-turn lane under 2025 Cumulative plus Project conditions. However, the westbound lane configuration remains the same as 2025 Cumulative conditions. Deterioration of the southbound critical movement at Masonic Avenue/Fell Street to LOS F, when comparing Existing plus Project to Existing Conditions, is deemed a significant impact. As a consequence, a corresponding LOS deterioration is expected at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P3-2g) would occur at the Masonic Avenue/Fell Street intersection with the implementation of Project 3-2 Option 1. Table V.3-11, p. V.A.3-374 summarizes these results.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 3-1 and 3-2 combined

Since Project 3-1 has only one option, the Existing plus Project conditions for Option 2 of Projects 3-1 and 3-2 combined are the same as for the Existing plus Project conditions for Project 3-2 Option 2. Please see the discussion below for Project 3-2.

Existing and Existing plus Project Conditions for Project 3-2

Under Existing conditions, this intersection operates at LOS C with 24.6 seconds of delay. The Masonic Avenue/Fell Street intersection would operate unsatisfactorily at LOS E, with 55.4 seconds of average delay under Existing plus Project conditions. The southbound lane configuration is modified from two through lanes, a shared through-right lane and an exclusive right lane to two through lanes and an exclusive right-turn lane under Existing plus Project conditions. However, the westbound lane configuration remains the same as Existing conditions. Because the southbound critical movements either deteriorate or will operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P3-2f) would occur at the Masonic Avenue/Fell Street intersection with the

implementation of Project 3-2 Option 2. Table V.3-10, p. V.A.3-373 summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 3-2 alone
Under 2025 Cumulative conditions, this intersection operates at LOS C with 27.7 seconds of delay. The Masonic Avenue/Fell Street intersection would operate unsatisfactorily at LOS E, with 64.2 seconds of average delay under 2025 Cumulative plus Project conditions. The southbound lane configuration is modified from two through lanes, a shared through-right lane and an exclusive right lane to two through lanes and an exclusive right-turn lane under 2025 Cumulative plus Project conditions. However, the westbound lane configuration remains the same as 2025 Cumulative conditions. Deterioration of the southbound critical movement at Masonic Avenue/Fell Street for Existing plus Project to LOS F relative to Existing Conditions, is determined a significant impact. As a consequence, a corresponding LOS deterioration is expected at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P3-2h) would occur at the Masonic Avenue/Fell Street intersection with implementation of Project 3-2 Option 2.

Intersection 44: Masonic Avenue/Geary Boulevard

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS D with 38.2 seconds of delay. The Masonic Avenue/Geary Boulevard intersection would operate satisfactorily at LOS D, with 48.4 seconds of average delay under Existing plus Project conditions. The southbound lane configuration would be modified from two through lanes and one shared through-right turn lane to two through lanes and one exclusive right-turn lane. Due to the reduction of capacity in the southbound approach, the average intersection delay would increase by 10.2 seconds, compared to Existing conditions. Project 3-2 Option 1 would not cause a significant impact to the Masonic Avenue/Geary Boulevard intersection under Existing plus Project conditions for the PM Peak hour.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Masonic Avenue/Geary Boulevard intersection would operate unsatisfactorily at LOS E, with 68.7 seconds of delay under 2025 Cumulative plus Project conditions, compared to LOS D and 41.8 seconds of delay for the 2025 Cumulative conditions. Because the southbound critical movement either deteriorates or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P3-2i) would occur with the implementation of Project 3-2 Option 1.

- **Option 2**

Existing and Existing plus Project Conditions
There would be no lane configuration adjustments to the Masonic Avenue/Geary Boulevard intersection under Existing plus Project conditions. The intersection would continue to operate satisfactorily at LOS D, with 38.2 seconds of average delay under Existing plus Project conditions. Hence, Project 3-2 Option 2 would not cause a significant impact to the Masonic Avenue/Geary Boulevard intersection under Existing plus Project conditions for the PM Peak hour. Table V.3-7, p. V.A.3-372, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Masonic Avenue/Geary Boulevard intersection would continue to operate satisfactorily at LOS D, with 41.8 seconds of delay under 2025 Cumulative plus Project conditions. No lane configuration changes are proposed under 2025 Cumulative plus Project conditions relative to 2025 Cumulative conditions. Hence, there would be no change in LOS or delay for this intersection, compared to 2025 Cumulative conditions. Therefore, there would not be any significant impacts at the Masonic Avenue/Geary Boulevard intersection with the implementation of Project 3-2 Option 2 under 2025 Cumulative plus Project conditions. Table V.3-9, p. V.A.3-373, summarizes these results.

Intersection 59: Masonic Avenue/Turk Street

- **Option 1**

Existing and Existing plus Project Conditions – AM Analysis
In the AM Peak hour under Existing conditions, this intersection operates at LOS B with 19.8 seconds of delay. The Masonic Avenue/Turk Street intersection would operate satisfactorily at LOS C, with 28.1 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from two through lanes and one shared through-right turn lane to one through lane and one shared through-right turn lane. The southbound lane configuration would be modified from one through lane and one shared through-right turn lane to one shared through-right turn lane. Due to the reduction of capacity in the northbound and southbound approaches, the average intersection delay would increase by 8.3 seconds, compared to Existing conditions. Project 3-2 Option 1 would not cause a significant impact to the Masonic Avenue/Turk Street intersection for the AM Peak hour under Existing plus Project conditions.

Existing and Existing plus Project Conditions – PM Analysis
In the PM Peak Hour, under Existing conditions, this intersection operates at LOS B with 19.5 seconds of delay. The Masonic Avenue/Turk Street intersection would operate satisfactorily at LOS D, with 47.6 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from one through

lane and one shared through-right turn lane to one shared through-right turn lane. The southbound lane configuration would be modified from two through lanes and one shared through-right turn lane to one through lane and one shared through-right turn lane. Due to the reduction of capacity in the northbound and southbound approaches, the average intersection delay would increase by 28.1 seconds, compared to Existing conditions. Project 3-2 Option 1 would not cause a significant impact to the Masonic Avenue/Turk Street intersection under Existing plus Project conditions for the PM Peak hour.

2025 Cumulative and 2025 Cumulative plus Project Conditions – AM Analysis
The Masonic Avenue/Turk Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions in the AM Peak Hour. The Masonic Avenue/Turk Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Because the northbound and southbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P3-2a) for the AM Peak hour would occur at the Masonic Avenue/Turk Street intersection with the implementation of Project 3-2 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions – PM Analysis
In the PM Peak Hour, the Masonic Avenue/Turk Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions, compared to LOS C and 26.8 seconds of delay for the 2025 Cumulative conditions. Because the northbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P3-2j) would occur at the Masonic Avenue/Turk Street intersection for the PM Peak hour with the implementation of Project 3-2 Option 1.

- **Option 2**

Existing and Existing plus Project Conditions – AM Analysis
In the AM Peak hour, under Existing conditions, this intersection operates at LOS B with 19.8 seconds of delay. The Masonic Avenue/Turk Street intersection would operate satisfactorily at LOS C, with 22.8 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from two through lanes and one shared through-right turn lane to two through lanes and one exclusive right-turn lane. The southbound lane configuration would be modified from one through lane and one shared through-right turn lane to two through lanes and one exclusive right-turn lane. Due to the lane configuration adjustment in the northbound and southbound approaches, the average intersection delay would increase by 3 seconds, compared to Existing conditions. Project 3-2 Option 2 would not cause a significant impact to the Masonic Avenue/Turk Street intersection for the AM Peak hour

under Existing plus Project conditions. Table V.3-6, p. V.A.3-371, summarizes these results.

Existing and Existing plus Project Conditions – PM Analysis
In the PM Peak Hour, under Existing conditions, this intersection operates at LOS B with 19.5 seconds of delay. The Masonic Avenue/Turk Street intersection would operate satisfactorily at LOS C, with 20.8 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from one through lane and one shared through-right turn lane to two through lanes and one exclusive right-turn lane. The southbound lane configuration would be modified from two through lanes and one shared through-right turn lane to two through lanes and one exclusive right-turn lane. Due to the lane configuration adjustment in the northbound and southbound approaches, the average intersection delay would increase by 1.3 seconds, compared to Existing conditions. Project 3-2 Option 2 would not cause a significant impact to the Masonic Avenue/Turk Street intersection under Existing plus Project conditions for the PM Peak hour. Table V.3-7, p. V.A.3-372, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions – AM Analysis
In addition, Masonic Avenue/Turk Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions in the AM Peak Hour. Because the northbound and southbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P3-2b) for the AM Peak hour would occur at the Masonic Avenue/Turk Street intersection with the implementation of Project 3-2 Option 2. Table V.3-8, p. V.A.3-372, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions – PM Analysis
In the PM Peak Hour, the Masonic Avenue/Turk Street intersection would operate satisfactorily at LOS C, with 31 seconds of delay under 2025 Cumulative plus Project conditions, compared to LOS C and 26.8 seconds of delay for the 2025 Cumulative conditions. Since this intersection would continue to operate at an acceptable LOS for the 2025 Cumulative plus Project conditions, there would be no significant impacts at the Masonic Avenue/Turk Street intersection with the implementation of Project 3-2 Option 2. Table V.3-9, p. V.A.3-373, summarizes these results.

Intersection 60: Masonic Avenue/Fulton Street

- **Option 1**

Existing and Existing plus Project Conditions – AM Analysis
In the AM Peak hour, under Existing conditions, this intersection operates at LOS B with 16.1 seconds of delay. The Masonic Avenue/Fulton Street intersection would operate

satisfactorily at LOS C, with 22 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from two through lanes and one shared through-right turn lane to one through lane and one shared through-right turn lane. The southbound lane configuration would be modified from one through lane and one shared through-right turn lane to one shared through-right turn lane. Due to the reduction of capacity in the northbound and southbound approaches, the average intersection delay would increase by 5.9 seconds, compared to Existing conditions. Project 3-2 Option 1 would not cause a significant impact to the Masonic Avenue/Fulton Street intersection for the AM Peak hour under Existing plus Project conditions.

Existing and Existing plus Project Conditions – PM Analysis

In the PM Peak hour, under Existing conditions, this intersection operates at LOS B with 15.8 seconds of delay. The Masonic Avenue/Fulton Street intersection would operate satisfactorily at LOS C, with 28 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from one through lane and one shared through-right turn lane to one shared through-right turn lane. The southbound lane configuration would be modified from two through lanes and one shared through-right turn lane to one through lane and one shared through-right turn lane. Due to the reduction of capacity in the northbound and southbound approaches, the average intersection delay would increase by 9.3 seconds, compared to Existing conditions. Project 3-2 Option 1 would not cause a significant impact to the Masonic Avenue/Fulton Street intersection under Existing plus Project 3-2 Option 1 conditions for the PM Peak hour.

2025 Cumulative and 2025 Cumulative plus Project Conditions – AM Analysis

The Masonic Avenue/Fulton Street intersection would operate unsatisfactorily at LOS F in the AM Peak Hour, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions, compared to LOS C for 2025 Cumulative conditions. Because the northbound and southbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P3-2c) would occur in the AM peak hour at the Masonic Avenue/Fulton Street intersection with the implementation of Project 3-2 Option 1.

2025 Cumulative and 2025 Cumulative plus Project Conditions – PM Analysis

In the PM Peak Hour, the Masonic Avenue/Fulton Street intersection would operate satisfactorily at LOS D, with 47 seconds of delay under 2025 Cumulative plus Project conditions, compared to LOS C and 23.1 seconds of delay for the 2025 Cumulative conditions. Since the intersection would continue to operate at an acceptable level of service, a significant impact would not occur at the Masonic Avenue/Fulton Street intersection with the implementation of Project 3-2 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions – AM Analysis
In the AM Peak hour, under Existing conditions, this intersection operates at LOS B with 16.1 seconds of delay. The Masonic Avenue/Fulton Street intersection would operate satisfactorily at LOS B, with 18.6 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from two through lanes and one shared through-right turn lane to two through lanes and one exclusive right-turn lane. The southbound lane configuration would be modified from one through lane and one shared through-right turn lane to two through lanes and one exclusive right-turn lane. Due to the lane configuration adjustment in the northbound and southbound approaches, the average intersection delay would increase by 2.5 seconds, compared to Existing conditions. Project 3-2 Option 2 would not cause a significant impact to the Masonic Avenue/Fulton Street intersection for the AM Peak hour under Existing plus Project 3-2 Option 2 conditions. Table V.3-6, p. V.A.3-371, summarizes these results.

Existing and Existing plus Project Conditions – PM Analysis
In the PM Peak Hour, the Masonic Avenue/Fulton Street intersection would operate satisfactorily at LOS B, with 18.6 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from one through lane and one shared through-right turn lane to two through lanes and one exclusive right-turn lane. The southbound lane configuration would be modified from two through lanes and one shared through-right turn lane to two through lanes and one exclusive right-turn lane. Due to the lane configuration adjustment in the northbound and southbound approaches, the average intersection delay would decrease by 0.1 seconds, compared to Existing conditions. Hence, Project 3-2 Option 2 would not cause a significant impact at the Masonic Avenue/Fulton Street intersection under Existing plus Project 3-2 Option 2 conditions for the PM Peak hour. Table V.3-7, p. V.A.3-372, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions – AM Analysis
The Masonic Avenue/Fulton Street intersection would operate unsatisfactorily at LOS F in the AM Peak Hour, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions, compared to LOS C for the 2025 Cumulative conditions. Because the northbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P3-2d) would occur with the implementation of Project 3-2 Option 2. Table V.3-8, p. V.A.3-372, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions – PM Analysis
In the PM Peak Hour, the Masonic Avenue/Fulton Street intersection would operate satisfactorily at LOS C, with 26.6 seconds of delay under 2025 Cumulative plus Project

conditions, compared to LOS C and 23.1 seconds of delay for the 2025 Cumulative conditions. Therefore, a significant impact would not occur at the Masonic Avenue/Fulton Street intersection with the implementation of Project 3-2 Option 2 under 2025 Cumulative plus Project conditions. Table V.3-9, p. V.A.3-373, summarizes these results.

Significant Impact TR-P3-2a:

The intersection of Masonic Avenue/Turk Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 3-2 Option 1 for the AM peak hour.

Significant Impact TR-P3-2b:

The intersection of Masonic Avenue/Turk Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 3-2 Option 2 for the AM peak hour.

Significant Impact TR-P3-2c:

The intersection of Masonic Avenue/Fulton Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 3-2 Option 1 for the AM peak hour.

Significant Impact TR-P3-2d:

The intersection of Masonic Avenue/Fulton Street would operate at LOS F in the AM peak hour under 2025 Cumulative plus Project conditions for Project 3-2 Option 2.

Significant Impact TR-P3-2e:

The intersection of Masonic Avenue/Fell Street would operate at LOS E under Existing plus Project conditions for Project 3-2 Option 1.

Significant Impact TR-P3-2f:

The intersection of Masonic Avenue/Fell Street would operate at LOS E under Existing plus Project conditions for Project 3-2 Option 2.

Significant Impact TR-P3-2g:

The intersection of Masonic Avenue/Fell Street would operate at LOS E under 2025 Cumulative plus Project conditions for Project 3-2 Option 1.

Significant Impact TR-P3-2h:

The intersection of Masonic Avenue/Fell Street would operate at LOS E under 2025 Cumulative plus Project conditions for Project 3-2 Option 2.

Significant Impact TR-P3-2i:

The intersection of Masonic Avenue/Geary Boulevard would operate at LOS E under 2025 Cumulative plus Project conditions for Project 3-2 Option 1.

Significant Impact TR-P3-2j:

The intersection of Masonic Avenue/Turk Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 3-2 Option 1.

TRANSIT

Muni bus line 43 runs in both directions on this segment of Masonic Avenue along the entire length of Project 3-2 with approximately six buses per hour each way during the AM and PM peak periods. Muni bus line 31BX runs northbound between Turk Street and Geary Boulevard during the AM peak period with approximately six buses per hour and southbound during the PM peak period with approximately six buses per hour.

There are two near side bus stops and three far side bus stops in this corridor for both the northbound and southbound directions. Due to the narrow curb lane (nine feet six inches), buses typically encroach upon the curb travel lane when loading passengers regardless of bus stop locations. Bus volumes along Masonic Avenue are generally low to moderate (six buses per hour each way south of Turk Street and 12 buses per hour each way between Turk Street and Geary Boulevard). Bicycle volumes are generally low; consequently there is little interaction between buses and bicyclists at bus stops.

Project 3-2 shares a common intersection (Intersection 43: Masonic Avenue/Fell Street) with Project 3-1: Fell Street and Masonic Avenue Intersection Improvements. The transit delay analysis below (Projects 3-1 and 3-2 Combined) reflects the combined impact of Projects 3-1 and 3-2 modifications to the Masonic Avenue/Fell Street intersection on transit delay. The impacts resulting from the implementation of individual Project 3-2 without Project 3-1 modifications to the Masonic Avenue/Fell Street intersection follow.

- **Option 1**

Existing and Existing plus Project Conditions for Projects 3-1 and 3-2 combined
Option 1 would result in a reduction of one travel lane in both directions on this segment of Masonic Avenue. This change would add approximately 375 seconds (6.3 minutes) of delay for Muni bus line 43 for northbound buses and reduce delay by approximately 51 seconds southbound in the PM peak hour under the Existing plus Project condition. For Muni bus line 31BX, delay would be reduced by approximately 132 seconds (2.2 minutes) southbound. The headways for Muni bus lines 43 and 31BX are 10 minutes. For Muni bus line 43, the total added delay of approximately 324 seconds (5.4 minutes) has been assumed to be 6 minutes and, therefore, would be greater than the transit delay threshold of six minutes. For Muni bus line 31BX, the total delay would be reduced by approximately 132 seconds (2.2 minutes). Therefore, a significant transit impact would occur for Muni bus line 43 with the implementation of combined Projects 3-1 and 3-2 Option 1 under Existing plus Project conditions for the PM peak hour.

Existing and Existing plus Project Conditions for Project 3-2
Option 1 would result in a reduction of one travel lane in both directions on this segment of Masonic Avenue. This change would add approximately 383 seconds (6.4 minutes) of delay for Muni bus line 43 for northbound buses and approximately 27 seconds of delay southbound in the PM peak hour under the Existing plus Project condition. For Muni bus line 31BX, delay would be reduced by approximately 132 seconds (2.2 minutes) southbound. The headways for Muni bus lines 43 and 31BX are 10 minutes. For Muni bus line 43, the total added delay of approximately 410 seconds (6.8 minutes) would be greater than the transit delay threshold of six minutes. For Muni bus line 31BX, the total delay would be reduced by approximately 132 seconds (2.2 minutes). Therefore, a significant transit impact (Significant Impact TR-P3-2m) would occur for Muni bus line 43 with the implementation of individual Project 3-2 under Existing plus Project conditions for Option 1 for the PM peak hour.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 3-1 and 3-2 combined
Option 1 would result in a reduction of one travel lane in both directions on this segment of Masonic Avenue. Under 2025 Cumulative plus Project conditions for Muni bus line 43, this change in the PM peak hour would add approximately 554 seconds (9.2 minutes) of delay for northbound buses and approximately 152 seconds (2.5 minutes) of delay for southbound buses. For Muni bus line 31BX, approximately 17 seconds of delay would be added southbound. For Muni bus line 43, the total added delay of approximately 706 seconds (11.8 minutes) would be greater than the transit delay threshold of six minutes. For Muni bus line 31BX, the total added delay of approximately 17 seconds would be less than the transit delay threshold of six minutes. Therefore, a significant transit impact (Significant Impact TR-P3-2l) would occur for

Muni bus line 43 with the implementation of Projects 3-1 and 3-2 Option 1 combined under 2025 Cumulative plus Project conditions for the PM peak hour.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 3-2 alone
Option 1 would result in a reduction of one travel lane in both directions on this segment of Masonic Avenue. Under 2025 Cumulative plus Project conditions for Muni bus line 43, this change in the PM peak hour would add approximately 561 seconds (9.4 minutes) of delay for northbound buses and approximately 243 seconds (4.1 minutes) of delay for southbound buses. For Muni bus line 31BX, approximately 17 seconds of delay would be added southbound. For Muni bus line 43, the total added delay of approximately 804 seconds (13.4 minutes) would be greater than the transit delay threshold of six minutes. For Muni bus line 31BX, the total added delay of approximately 17 seconds would be less than the transit delay threshold of six minutes. Therefore, a significant transit impact (Significant Impact TR-P3-2k) would occur for Muni bus line 43 with the implementation of individual Project 3-2 under 2025 Cumulative plus Project conditions for Option 1 for the PM peak hour.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 3-1 and 3-2 combined
Project 3-1 does not have an Option 2. Therefore, please refer to the discussion for Project 3-2 Option 2.

Existing and Existing plus Project Conditions for Project 3-2
For Existing plus Project conditions, Project 3-2 Option 2 would not cause delay to Muni bus operations along this corridor as buses would be provided with an exclusive bus lane for their use. While the proposed bus lane would be shared with bicyclists, it is expected that conflicts related to bicycle/bus interactions would not be significant because of the low volumes of both bicycle and bus traffic along this corridor. Therefore, there would be no significant transit impacts with the implementation of individual Project 3-2 Option 2 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 3-2
For 2025 Cumulative plus Project conditions, Project 3-2 Option 2 would not cause delay to Muni bus operations along this corridor as buses would be provided with an exclusive bus lane for their use. While the proposed bus lane would be shared with bicyclists, it is expected that conflicts related to bicycle/bus interactions would not be significant because of the low volumes of both bicycle and bus traffic along this corridor. Therefore, there would be no significant transit impacts with the implementation of individual Project 3-2 Option 2 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P3-2k (Projects 3-1 and 3-2 combined):

Under Existing plus Project conditions, Option 1 of combined Projects 3-1 and 3-2 combined would result in a significant impact to transit for Muni bus line 43 in the PM peak hour.

Significant Impact TR-P3-2l (Projects 3-1 and 3-2 combined):

Under 2025 Cumulative plus Project conditions, Option 1 of the combined Projects 3-1 and 3-2 would result in a significant impact to transit for Muni bus line 43 in the PM peak hour.

Significant Impact TR-P3-2m:

Under Existing plus Project conditions, individual Project 3-2 Option 1 would result in a significant impact to transit for Muni bus line 43 in the PM peak hour.

Significant Impact TR-P3-2n:

Under 2025 Cumulative plus Project conditions, individual Project 3-2 Option 1 would result in a significant impact to transit for Muni bus line 43 in the PM peak hour.

PARKING

There are a total of approximately 150 existing on-street parking spaces on both sides of Masonic Avenue between Geary Boulevard and Fell Street.

- **Option 1**
  Option 1 would permanently remove approximately 13 on-street parking spaces; 11 spaces on the east side of Masonic Avenue between Geary Boulevard and O'Farrell Street and two spaces on the east side of Masonic Avenue between Fell and Hayes Streets.

  Existing on-street parking occupancy along Masonic Avenue varies, ranging from 50 to 80 percent. Parking occupancy is higher in the mid-section near the University of San Francisco (USF) and lower in the northern and southern sections. Thus, the total number of vacant spaces also varies, depending on the block. The permanent removal of 13 on-street parking spaces under Option 1 would increase overall parking occupancy but demand would be accommodated with the area's existing parking supply in the vicinity. Therefore, there would not be a significant parking impact with implementation of Project 3-2 Option 1.

- **Option 2**
  Option 2 would permanently remove approximately 27 on-street parking spaces, 21 spaces on both sides of Masonic Avenue between Geary Boulevard and O'Farrell Street and six spaces along the portion from mid-block to Fell Street between Hayes and Fell Streets. This option would also remove a total of approximately 115 parking spaces on both sides of Masonic Avenue between Anza/O'Farrell Street and Hayes Street during weekdays from 7:00 a.m. to 6:00 p.m.

The removal of 142 on-street parking spaces during weekday midday under Option 2 would force approximately 70 to 90 vehicles to find parking during this time along those streets perpendicular to Masonic Avenue. Currently, parking occupancy on some side streets is high, especially along Anza, Turk, Golden Gate, and Fulton Streets, west of Masonic Avenue. A considerable number of USF students also use these streets for parking during weekday midday. Option 2 would further increase parking occupancy in the area and make parking more difficult to find. This could potentially affect occupancy on side streets several blocks further away from Masonic Avenue.

San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

In San Francisco, parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social effects need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact. (CEQA Guidelines Section 15131(a).) The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor. There would be a substantial loss of parking with Project 3-2 Option 2. However, there would be no significant parking impacts with implementation of Project 3-2 Option 2.

PEDESTRIAN

- **Option 1**
  Option 1 would not result in any changes to the pedestrian environment. Therefore there would be no significant pedestrian impacts with Project 3-2 Option 1.

- **Option 2**
  Option 2 would not include any changes to sidewalks and crosswalks although with the removal of on-street parking there could be a perceived change in pedestrian safety with the loss of the parking lane buffer between moving traffic and the sidewalk. This change is not considered significant because pedestrians usually do not walk immediately adjacent to the curb due to the presence of traffic signs and light posts. However, students from the San Francisco Day School tend to congregate along Masonic Avenue near Golden Gate Avenue after school hours. No curb parking is currently allowed on Masonic Avenue during the AM (northbound) and PM (southbound) peak commute periods; in addition, the bicycle lane would also function as a buffer between the curb and vehicular traffic. The changes proposed by Option 2 would not be greatly different from what occurs currently during those times. Therefore, there would be no significant pedestrian impacts as a result of Project 3-2 Option 2.

BICYCLE

Bicycle volumes along Masonic Avenue are generally low.

- **Option 1**
  Under Option 1, the installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel during the weekday from 7:00 a.m. and 6:00 p.m. Therefore, Project 3-2 Option 1 would not result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

- **Option 2**
  Under Option 2 the installation of bicycle lanes would also provide bicyclists with a designated right-of-way for travel on the shared bus and bicycle lane on weekdays between 7:00 a.m. and 6:00 p.m. The chances of bus and bicyclist conflicts in this lane would be relatively low because of the differing travel speeds. In those instances buses or bicyclists would use the adjacent travel lane to pass. Therefore, Project 3-2 Option 2 would not result in a significant impact to bicyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Masonic Avenue has mostly residential buildings. There are several institutional uses and two large retail stores on the ground floor directly fronting Masonic

Avenue. No double-parked trucks were observed on this segment of Masonic Avenue. Loading activities for the institutional uses generally occur on the side streets or within off-street parking lots. There is one on-street yellow commercial freight loading space serving the retail spaces on the near side of Hayes Avenue.

- **Option 1**
  Option 1 would create no change to the existing operation of the yellow commercial freight loading space. Therefore, there would not be a significant loading impact resulting from Project 3-2 Option 1.

- **Option 2**
  With Option 2 the on-street loading activities would be impacted because no on-street parking would be allowed on the east side of Masonic Avenue between 7:00 a.m. and 6:00 p.m. With the loss of on-street parking, delivery vehicles most likely would park in the northbound right turn lane along Masonic Avenue or in the Muni bus stop on Hayes Street to make deliveries to the retail store on the corner. Since delivery trucks can legally park in the right turn lane during non-peak traffic hours and the loading demand to this retail store is relatively small, Option 2 would not cause significant loading impact.

PROJECT 3-3: MCALLISTER STREET BICYCLE LANE, MARKET STREET TO MASONIC AVENUE

Project 3-3 would add westbound sharrows between Market and Franklin Streets and between Fillmore Street and Masonic Avenue. A five-foot wide westbound Class II bicycle lane would be added between Franklin and Fillmore Streets by narrowing the travel lanes from approximately 14 feet and 4.5 inches to 12 feet wide. Project 3-3 would also add sharrows in both directions on Charles J. Brenham Place between Market and McAllister Streets.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection, on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus line 5 runs along the full length of Project 3-3, with the exception of the one block east of Masonic Avenue where Muni bus line 5 is located on Central Avenue and Fulton Street to the west. The line operates in both directions, except for the westbound two block segment between Market and Hyde Streets. In addition, eight Golden Gate Transit (GGT) bus lines (10, 54, 70/80, 72, 73, 76 and 93) run westbound along McAllister Street between Market and Webster Streets (GGT bus line 10) or between Market Street and Van Ness Avenue (remaining GGT bus lines). SamTrans bus line MX operates westbound for two blocks between Hyde and Polk Streets. East

of Webster Street, there are approximately 15 westbound buses and 10 eastbound buses per hour during the AM peak period and approximately 27 westbound buses and 12 eastbound buses during the PM peak period. West of Webster Street, Muni bus line 5 operates on McAllister Street with approximately 10 buses per hour in each direction.

Transit service between Market and Webster Streets includes all Muni and GGT bus lines discussed above; volumes are moderate to high, especially during the PM peak period. Bus stops along this segment of McAllister Street are placed close to each other, located at almost every block. Because most of the bus stops are located on the far side, and the curb lane is between 16 to 18 feet wide, buses typically do not encroach upon the adjacent travel lane. The only exception is the eastbound near-side bus stop in front of City Hall at Polk Street. Buses at this stop often stop further away from the curb in order to more quickly reenter traffic. There are approximately 15 westbound buses and 10 eastbound buses per hour during the AM peak period and approximately 27 westbound buses and 12 eastbound buses per hour during the PM peak period. Bicycle volumes along this segment are low to moderate, thus, there is very little interaction between bicyclists and buses. The striping of sharrows would not cause any delays to Muni or GGT bus operations while moving or at bus stops.

West of Webster Street, transit volumes are substantially lower. Muni bus line 5 operates with approximately 10 buses per hour in each direction. Bicycle volumes in this segment are also very low. About half of the 14 bus stops in this segment are located on the far side of the intersection and the other half are either near side of mid-block stops. There is very little interaction between buses and bicyclists because both bus and bicycle volumes are low. The proposed westbound sharrows between Fillmore Street and Masonic Avenue would not substantially change the current interactions between buses and bicyclists, or materially delay transit operation in terms of additional delays. The proposed westbound Class II bicycle lane, between Franklin and Fillmore Streets, would be striped between eight-foot wide parking and a 12-foot wide travel lane, which is a standard design. This design would accommodate both buses and bicyclists without conflict or impact on transit operation. Project 3-3 would not affect transit capacity, transit operation, or travel time. Therefore, there would be no significant transit impacts with implementation of Project 3-3.

PARKING

There would be no changes in parking layout or number of parking spaces. Therefore, there would be no parking impacts as a result of Project 3-3.

PEDESTRIAN

Pedestrian volumes are generally low, except along the segment between Market Street and Van Ness Avenue. There would be no changes in sidewalk width or crosswalk layout, and the interactions between pedestrians and bicyclists would not change as a result of Project 3-3. Therefore, there would be no pedestrian impacts with implementation of Project 3-3.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. In addition, the installation of sharrows would increase the motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone'.[3] Hence, Project 3-3 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This area has mostly residential uses with occasional commercial development. There were no double-parked vehicles or significant loading needs observed[4] in the field. There would be no changes in on-street and off-street layout of loading spaces. Therefore, there would be no loading impacts with implementation of Project 3-3.

PROJECT 3-4: POLK STREET BICYCLE LANE, MARKET STREET TO MCALLISTER STREET

There are two options for this segment of Polk Street. There is an existing southbound Class II bicycle lane within this segment.

- **Options 1 and 2**
  Both Options 1 and 2 would add a northbound Class II bicycle lane between Grove and McAllister Streets and a seven-foot and nine-inch wide contra-flow bicycle lane between Hayes and Grove Streets separated by a four-foot wide median. Both options would remove on-street parking on the east side of Polk Street between Market and Grove Streets, and convert pull-in angled parking into back-in angled parking between Grove and McAllister Streets. Both options would remove the existing striped area on the west side of Polk Street at the approach to Market Street.

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[3] The 'door zone' refers to that area adjacent to a parked car where a bicyclist runs the risk of being hit by a suddenly opened car door.

[4] Field surveys were conducted by CHS Consulting on Tuesday, September 11, 2007 during the midday.

- **Option 1**
  Under Option 1, the width of the two existing southbound travel lanes between McAllister and Grove Streets would be reduced from 11 feet to 10 feet 6 inches.

- **Option 2**
  Option 2 would have the same design as Option 1 north of Hayes Street. The key difference between Options 1 and 2 is the block of Polk Street between Market and Hayes Streets. The segment of Polk Street between Market and Hayes Streets under Option 2 would be converted from a one-way to a two-way street with one 11-foot and six-inch wide lane and northbound sharrows. On-street parking on the east side of Polk Street in this segment would be removed. At the approach to the Hayes Street, this northbound lane would be forced to make a left-turn onto Hayes Street only.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus line 21 runs southbound on Polk Street only between Grove and Market Streets, with approximately eight buses per hour during the AM and PM peak periods. There are no Muni bus stops in this segment of Polk Street. Buses make a right turn from Grove Street onto Polk Street and then stay on the east lane to Market Street and then make a left turn onto Market Street towards downtown. The southbound curb lanes are currently 10 to 13 feet wide between Grove and Market Streets. Transit volumes are moderate, and bicycle volumes in this area are low to moderate. Both buses and bicyclists travel comfortably in this segment, and there are no obvious conflicts. Conflicts between buses and bicyclists seldom occur at the right-turn movement from eastbound Grove Street onto southbound Polk Street.

Both Options 1 and 2 would maintain 11 feet to 12 feet wide southbound lanes between Grove and Market Streets, which would provide an adequate width for bus operation adjacent to the existing five-foot wide bicycle lane. Neither option would change the current interactions between southbound buses and bicyclists. There is no northbound transit service where the proposed contra-flow bicycle lane would be installed. Therefore, there would be no significant transit impacts with implementation of Project 3-4 with either Option 1 or Option 2.

PARKING

There are a total of approximately 78 on-street parking spaces on both sides of Polk Street between Market and McAllister Street. Both Options 1 and 2 would remove approximately 12 on-street parking spaces on the east side of Polk Street between Market and Grove Streets. Loss

or shortage of parking is not a permanent part of the physical environment, thus, the impacts would not be significant.

- **Option 1**
  Option 1 would relocate the white zone between Market and Hayes Street in front of the Fox Plaza Building from the curbside to the west side of the proposed raised median

- **Option 2**
  Option 2 would force all vehicles needing drop-off activity to come from Market Street. Double-parking was observed at this passenger loading zone. In the future double-parking would cause potential congestion and conflict with the proposed northbound bicycle movement.

  Both Options 1 and 2 would also convert existing pull-in angled parking into back-in angled parking on the east side of Polk Street between McAllister and Grove Streets without changing the number of parking spaces. The change of pull-in to back-in angled parking would potentially benefit bicyclists by improving approaching bicyclists' visibility to motor vehicle drivers and other traffic, both when drivers are entering and exiting a parking stall. When entering a parking stall by backing in, drivers would be looking backwards towards oncoming traffic and would be more aware of approaching bicyclists. Bicyclists would also be better able to see these vehicles backing into the parking spaces and, therefore, would have ample warning to safely maneuver around these vehicles. When exiting a parking stall drivers would face the street with a better view of oncoming traffic in comparison to drivers backing out of the pull-in parking stall, whose view of oncoming traffic may be obscured by adjacent parked vehicles.

  Loss of parking could cause potential secondary effects, such as drivers attempting to find parking at or near Polk Street and then seek parking farther away if convenient parking is unavailable, potentially circling and looking for a parking space in areas of limited parking supply. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Given that 12 on-street spaces of a total of 78 spaces (15 percent) would be removed, any secondary environmental impacts that may result from a shortfall in parking in the vicinity of Project 3-4 would be minor. Therefore, there would be no significant parking impacts with implementation of either Option 1 or Option 2 of Project 3-4.

PEDESTRIAN

Pedestrian volumes are generally low to moderate between Grove and Market Streets, but high between Grove and McAllister Streets in front of the City Hall and at the Market Street intersection. The proposed median and the bicycle lane on the east side of Polk Street between Market and Grove Streets under Option 1 and between Market and Hayes Street under Option

2 would benefit pedestrians by creating an additional buffer zone between pedestrians and contra-flow traffic.

- **Option 1**
  Option 1 would not create any changes in sidewalk width or crosswalk layout. Therefore, there would be no pedestrian impacts under Project 3-4 Option 1.

- **Option 2**
  Option 2 would narrow the sidewalk on the east side of Polk Street approaching Hayes Street in the northbound direction and increase the crossing distance across Polk Street by two feet and three inches from 17 feet to 14 feet 9 inches. This impact would not be significant because there would continue to be sufficiently wide sidewalk and the increase in crossing distance would be increase pedestrian crossing time by less than one second. Therefore, there would be no significant pedestrian impacts under Project 3-4 Option 2.

BICYCLE

Project 3-4 for both Option 1 and Option 2 would have the same design for the segment of Polk Street between McAllister and Hayes Streets. From McAllister Street to Grove Street, Project 3-4 would add a northbound bicycle lane and change pull-in angled parking to back-in angled parking. Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. In addition, changing pull-in angled parking to back-in angled parking would potentially benefit bicyclists by improving the driver's visibility of approaching bicyclists and other vehicles both when entering and exiting the parking stall. When entering the parking stall by backing in, the driver would be looking towards oncoming traffic and would be more aware of approaching bicyclists. When exiting the parking stall, the driver is facing the street with a better view of traffic in the travel lane in comparison to drivers backing out of the pull-in parking stall, whose view of oncoming traffic may be obscured by an adjacent parked vehicle.

Both Option 1 and Option 2 would also add a northbound contraflow bicycle lane. This bicycle lane would provide bicyclists with a dedicated right-of-way separated from vehicle traffic with a concrete median. While a contraflow bicycle lane is infrequently used, it is appropriate for a short segment of one-way street as is found on this segment of Polk Street. Bicyclists will be largely protected from oncoming traffic by the concrete median with potential conflict points at the access to the loading dock north of Hayes Street and at the intersections at either end of the block. Trucks backing into the loading dock would move slowly while making this movement across the contraflow bicycle lane. The trucks would be highly visible to bicyclists and would not constitute a hazard to bicyclists in the contraflow lane. Northbound bicyclists traveling

through the signalized Polk Street/Grove Street intersection would cross the path of southbound motorists on Polk Street turning left onto Grove Street. However, this is a typical movement at an intersection; motorists and bicyclists would have a clear view of each other and be able to avoid conflicts. Similarly, at the Polk Street/Hayes Street intersection few conflicts should occur between motor vehicles and bicyclists in the northbound contraflow lane. Southbound motor vehicles will only be turning right onto Hayes Street or continuing straight on Polk Street. Neither movement will cross the path of northbound bicyclists.

For the segment of Project 3-4 between Hayes Street and Market Street, designs for Option 1 and Option 2 differ.

- **Option 1**
  Option 1 would include a northbound contraflow bicycle lane. This bicycle lane would provide bicyclists with a dedicated right-of-way separated from vehicle traffic with a concrete median. A break in the median would allow trucks to enter the loading dock for Fox Plaza just south of Hayes Street. Trucks must back into the loading dock and move slowly while making this maneuver. Trucks would be highly visible to bicyclists and would not constitute a hazard to bicyclists in the contraflow lane. The passenger loading zone (white zone) would be relocated to from the curb to the street side (west side) of the median. Therefore, vehicles using the loading zone would not cross the path of bicyclists. Passengers being dropped off or picked up at the white zone would have to be careful when crossing the bicycle lane to the sidewalk. Appropriate signage would address safety issues related to potential conflicts between bicyclists and pedestrians at this location.

- **Option 2**
  Option 2 would change this block of Polk Street between Hayes and Market Street from one-way to two-way operation. Sharrows would be added to the new northbound travel lane. The installation of sharrows would increase motor vehicle drivers' awareness that bicyclists may be on the road. Trucks backing into the loading dock at Fox Plaza would move slowly while making this maneuver. Trucks would be highly visible to bicyclists and would not constitute a hazard to bicyclists in the northbound travel lane. Bicyclists would have to be aware of vehicles crossing their path to access the passenger loading zone (white zone). Bicyclists following the path designated by the sharrows would not be in conflict with this movement.

  Project 3-4 with either Option 1 or Option 2 would not result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Polk Street has mostly office and institutional uses. There are two off-street loading docks located on the east side of Polk Street to the north and south of the Hayes and Polk Street intersection.

For the section of Polk Street between McAllister and Hayes Streets, Option 1 and Option 2 have the same design. This would include a contraflow bicycle lane on the east side of Polk Street separated from vehicle traffic with a concrete median. Access to the loading dock located north of Hayes Street would be maintained with a break in the median. Trucks backing into the loading dock would move slowly while making this movement across the contraflow bicycle lane. The trucks would be highly visible to bicyclists and this movement would not result in a conflict between trucks and bicyclists in the contraflow lane.

- **Option 1**
  Option 1 for the segment of Polk Street between Hayes Street and Market Street would include a northbound contraflow bicycle lane on the east side of Polk Street separated from vehicle traffic with a concrete median. An opening in the median would be provided for access to the Fox Plaza loading area just south of Hayes Street. Trucks must back into the loading dock and move slowly while making this maneuver. Trucks would be highly visible to bicyclists and this movement would not result in a conflict between trucks and bicyclists in the contraflow lane. This option would move the white passenger-loading zone on the east side of Polk Street between Market and Hayes Streets to the west side of the concrete median. The proposed white zone would be adjacent to the travel lane in an area with a total width of 18 feet. Pedestrians would be required to cross the bicycle lane to gain access to the sidewalk. However, Project 3-4 Option 1 would not result in significant impacts to passenger or freight loading.

- **Option 2**
  Under Option 2, the change from one-way to two-way operation on Polk Street in front of the Fox Plaza loading dock would require trucks to use westbound Market Street to access the loading dock. Sharrows would be added to the new northbound travel lane. Trucks backing into the loading dock at Fox Plaza would move slowly while making this maneuver. Trucks would be highly visible to bicyclists and this movement would not result in a conflict between trucks and bicyclists in the northbound travel lane. Trucks exiting the loading dock would be able to use Polk Street in either direction. This change in circulation may inconvenience some drivers but would not result in a significant loading impact Option 2 and would not affect current passenger loading activities. Therefore, Project 3-4 Option 2 would not result in significant loading impacts.

PROJECT 3-5: SCOTT STREET BICYCLE LANE, FELL STREET TO OAK STREET

There are two options for this segment of Scott Street.

- **Option 1**
  Option 1 would add a northbound Class II left-turn bicycle lane between the two opposing travel lanes and remove the left-turn bays in both directions between Oak Street and Fell Street. There would be no parking removal.

- **Option 2**
  Option 2 would add a northbound Class II left-turn bicycle lane between the two opposing travel lanes between Oak Street and Fell Street. Approximately three on-street parking spaces would be removed on the west side of Scott Street between Fell Street and approximately 98 feet southward.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

There are no transit lines in this segment of Scott Street. Therefore, there would be no transit impacts under either Option 1 or Option 2.

PARKING

- **Option 1**
  There would no changes in parking under Option 1. Therefore, there would be no parking impacts under Project 3-5 Option 1.

- **Option 2**
  Option 2 would remove approximately three on-street parking spaces on the west side of Scott Street between Fell Street and approximately 98 feet southward. Parking occupancy in the area is typically moderate, and this minor parking change would not substantially increase the occupancy rates. Therefore, there would be no significant parking impacts under Project 3-5 Option 2.

PEDESTRIAN

Pedestrian volumes in this area are generally low, and there would be no changes in sidewalk width or crosswalk layout. The removal of on-street parking on the west side of the street would place the southbound travel lane directly adjacent to the sidewalk and may reduce the perceived safety of pedestrians but would not change their actual safety because a street

without parking is not an unusual or unsafe design. Therefore, there would be no pedestrian impacts from Project 3-5 with either Option 1 or Option 2.

BICYCLE

Both Options 1 and 2 would add a northbound Class II left-turn bicycle lane located to the left of left-turning vehicles. This configuration is not a standard practice for the placement of left-turn bicycle lanes, which are generally placed to the right of the left-turn lane. However, the receiving bicycle lane on Fell Street is located on the left side of the one-way street to facilitate access to the bicycle paths in the Panhandle at Baker Street, three blocks from this intersection. For both Options 1 and 2, this nonstandard placement makes sense. The length of the bicycle left-turn lane gives bicyclists ample opportunity to safely weave through traffic to reach the left-turn lane. The bicycle box that was implemented on northbound Scott Street on the nearside of Oak Street under "The Wiggle" project discussed below would also help bicyclists access the proposed left-turn bicycle lane. Thus neither Option 1 nor Option 2 of Project 3-5 would have a significant impact on bicycle circulation but instead should improve the ability of bicyclists to make this left-turn and to access the bicycle lanes on Fell Street. Therefore, there would be no significant bicycle impacts with the implementation of either Option 1 or Option 2 of Project 3-5, but Project 3-5 could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Scott Street is residential and has low loading demand. Loading is usually accommodated by the on-street parking spaces, and there would be no changes to the on-street or off-street zones. No double-parked trucks or significant loading needs were observed in this segment of Scott Street. Therefore, there would be no significant loading impacts with implementation of either Option 1 or Option 2 of Project 3-5.

PROJECT 3-6: THE "WIGGLE" IMPROVEMENTS, DUBOCE AVENUE BETWEEN MARKET AND STEINER STREETS, STEINER STREET BETWEEN DUBOCE AVENUE AND WALLER STREET, WALLER STREET BETWEEN STEINER AND PIERCE STREETS, PIERCE STREET BETWEEN WALLER AND HAIGHT STREETS, HAIGHT STREET BETWEEN PIERCE AND SCOTT STREETS, AND SCOTT STREET BETWEEN HAIGHT AND FELL STREETS

Project 3-6 was implemented on May 13, 2006 prior to the Bicycle Plan injunction; as such, post-project implementation conditions describe what is on the ground today and are analyzed under Existing plus Project and 2025 Cumulative plus Project conditions. Pre-project conditions

describe what existed before the implementation of Project 3-6 and are analyzed under Existing and 2025 Cumulative conditions.

With Project 3-6, sharrows were added on Duboce Avenue, Steiner Street, Waller Street, Pierce Street, Haight Street, and Scott Street. A northbound Class II bicycle lane was striped on Scott Street between Haight and Oak Streets, and a bicycle box and a "No Turn on Red" restriction were added on Scott Street at the nearside of Oak Street in the northbound direction.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus lines 6, 7, 71, and 71L run westbound only along Haight Street, with approximately 22 buses per hour each way during the AM and PM peak periods. Muni N-Judah light rail line runs in both directions along Duboce Avenue, with approximately eight trains per hour each way during the AM and PM peak periods. Adding sharrows did not change how Muni buses and the light rail operate or how bicyclists ride on the street. Therefore, Project 3-6 has not resulted in significant transit impacts.

PARKING

There were no changes in parking along "The Wiggle." Therefore, there are no parking impacts as a result of implementation of Project 3-6.

PEDESTRIAN

There was no change in sidewalk or crosswalk layouts in "The Wiggle." Therefore, there are no pedestrian impacts with Project 3-6.

BICYCLE

The installation of sharrows has increased the motor vehicle drivers' awareness that bicyclists may be on the road as well as identified for bicyclists the pathway outside the 'door zone'.[5] The bicycle box allows safer left-turn movement of bicyclists from Scott Street onto Oak Street by providing a queuing area to turn ahead without conflicting with motor vehicles. Hence, Project 3-6 has not had a significant impact on cyclists, but has had the beneficial effect of improving roadway conditions and safety for bicyclists.

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[5] See note on San Francisco's Shared Lane Pavement Markings: Improving Bicycle Safety.

LOADING

This area has mostly residential and some recreational and retail uses with a low on-street loading demand. There were no double-parked vehicles or significant loading needs observed[6] in the field. Therefore, there are no loading impacts for either Option 1 or 2 of Project 3-6.

CLUSTER 3: SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impact TR-P3-1a (Projects 3-1 and 3-2 combined):

The intersection of Masonic Avenue/Fell Street would operate at LOS E under Existing plus Project conditions for Option 1 of Projects 3-1 and 3-2 combined.

M-TR-P3-1a (Projects 3-1 and 3-2 combined):

Four seconds of green time shall be added to the northbound and southbound directions of Masonic Avenue and four seconds of green time shall be reduced from the westbound direction of Fell Street. With these adjustments, Masonic Avenue/Fell Street intersection operations will improve to LOS D, with 52.7 seconds of delay. It has been ensured that the minimum green times required for pedestrians to cross the intersection would be maintained even after the green time adjustments to the signal. Hence, this mitigation measure would reduce impacts from combined Projects 3-1 and 3-2 Option 1 to a less-than-significant level under Existing plus Project conditions. Table V.3-12 on p. V.A.3-400, below, summarizes the LOS results after this mitigation measure is applied.

TABLE V.3-12
CLUSTER 3 – PROJECTS 3-1 AND 3-2 COMBINED
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		Existing plus Project Option 1		Existing plus Project Option 1 with Mitigation Measures	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS
43.	Masonic Avenue/Fell Street	**68.7**	**E**	52.7	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

6 Field surveys were conducted by CHS Consulting on Friday, September 14, 2007 during the midday.

Significant Impact TR-P3-1b: (Projects 3-1 and 3-2 combined):

The intersection of Masonic Avenue/Fell Street would operate at LOS E under 2025 Cumulative plus Project conditions for combined Projects 3-1 and 3-2 Option 1.

M-TR-P3-1b (Projects 3-1 and 3-2 combined):

No feasible mitigation measures have been identified for the Masonic Avenue/Fell Street intersection under 2025 Cumulative plus Project conditions for combined Projects 3-1 and 3-2 Option 1. Hence, a significant impact would occur at the Masonic Avenue/Fell Street intersection with the implementation of combined Projects 3-1 and 3-2 Option 1.

Significant Impact TR-P3-2a:

The intersection of Masonic Avenue/Turk Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1 for the AM peak hour.

M-TR-P3-2a:

No feasible mitigation measures have been identified for the Masonic Avenue/Turk Street intersection under 2025 Cumulative plus Project conditions for the Masonic Avenue/Turk Street intersection with the implementation of Project 3-2 Option 1.

Significant Impact TR-P3-2b:

The intersection of Masonic Avenue/Turk Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 3-2 Option 2 for the AM peak hour.

M-TR-P3-2b:

No feasible mitigation measures have been identified for the Masonic Avenue/Turk Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the Masonic Avenue/Turk Street intersection with the implementation of Project 3-2 Option 2.

Significant Impact TR-P3-2c:

The intersection of Masonic Avenue/Fulton Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1 for the AM peak hour.

M-TR-P3-2c:

No feasible mitigation measures have been identified for the Masonic Avenue/Fulton Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Masonic Avenue/Fulton Street intersection with the implementation of Project 3-2 Option 1.

Significant Impact TR-P3-2d:

The intersection of Masonic Avenue/Fulton Street would operate at LOS F in the AM peak hour under 2025 Cumulative plus Project conditions for Project 3-2 Option 2.

M-TR-P3-2d:

No feasible mitigation measures have been identified for the Masonic Avenue/Fulton Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the Masonic Avenue/Fulton Street intersection with the implementation of Project 3-2 Option 2.

Significant Impact TR-P3-2e:

The intersection of Masonic Avenue/Fell Street would operate at LOS E under Existing plus Project conditions for Project 3-2 Option 1.

M-TR-P3-2e:

No feasible mitigation measures have been identified for the Masonic Avenue/Fell Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the Masonic Avenue/Fell Street intersection with the implementation of Project 3-2 Option 1.

Significant Impact TR-P3-2f:

The intersection of Masonic Avenue/Fell Street would operate at LOS E under Existing plus Project conditions for Project 3-2 Option 2.

M-TR-P3-2f:

Four seconds of green time shall be added to the northbound and southbound Masonic Avenue directions, with a corresponding reduction in green time in the westbound Fell Street direction of four seconds. With these adjustments, the Masonic Avenue/Fell Street intersection operations

would improve to LOS D, with 45.8 seconds of delay and a V/C ratio of 1.1. It has been ensured that the minimum green times required for pedestrians to cross the intersection have been maintained even after the green time adjustments to the signal. Hence, this mitigation measure would reduce the project impacts at the Masonic Avenue/Fell Street intersection to a less than significant level for Project 3-2 with Option 2 under Existing plus Project conditions. Table V.3-13, p. 403, summarizes the LOS results after this mitigation measure is applied.

TABLE V.3-13
CLUSTER 3 – PROJECT 3-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		Existing plus Project Option 2 (Project 3-2)		Existing plus Project Option 2 (Project 3-2) with Mitigation Measures	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
43.	Masonic Avenue/Fell Street	**55.4**	**E**	45.8	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P3-2g:

The intersection of Masonic Avenue/Fell Street would operate at LOS E under 2025 Cumulative plus Project conditions for Project 3-2 Option 1.

M-TR-P3-2g:

No feasible mitigation measures have been identified for the Masonic Avenue/Fell Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Masonic Avenue/Fell Street intersection with the implementation of Project 3-2 Option 1.

Significant Impact TR-P3-2h:

The intersection of Masonic Avenue/Fell Street would operate at LOS E under 2025 Cumulative plus Project conditions for Project 3-2 Option 2.

M-TR-P3-2h:

No feasible mitigation measures have been identified for the Masonic Avenue/Fell Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the Masonic Avenue/Fell Street intersection with the implementation of Project 3-2 Option 2.

Significant Impact TR-P3-2i:

The intersection of Masonic Avenue/Geary Boulevard would operate at LOS E under 2025 Cumulative plus Project conditions for Project 3-2 Option 1.

M-TR-P3-2i:

No feasible mitigation measures have been identified for Option 1 under 2025 Cumulative plus Project conditions. Hence, a significant impact would occur at the Masonic Avenue/Geary Boulevard intersection with the implementation of Project 3-2 Option 1.

Significant Impact TR-P3-2j:

The intersection of Masonic Avenue/Turk Street would operate at LOS F under 2025 Cumulative plus Project conditions for Project 3-2 Option 1.

M-TR-P3-2j:

It is proposed that ten seconds of green time be added to the northbound Masonic Avenue direction, with a corresponding reduction of green time in the eastbound Turk Street direction of ten seconds, to improve intersection operations at the Masonic Avenue/Turk Street intersection to LOS E, with 72.5 seconds of delay and a V/C ratio of 1.29. It has been ensured that the minimum green times required for pedestrians to cross the intersection have been maintained even after the green time adjustments to the signal. However, the Masonic Avenue/Turk Street intersection would continue to operate at an unacceptable LOS, therefore the traffic impact would be significant even after this improvement measure is implemented. Table V.3-14, p. V.A.3-405, summarizes the LOS results after this improvement measure is applied.

TABLE V.3-14
CLUSTER 3 – PROJECT 3-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

	Intersection	2025 Cumulative plus Project Option 1		2025 Cumulative plus Project Option 1 with Mitigation Measures	
		Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
59.	Masonic Avenue/Turk Street	>80	**F**	72.5	**E**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P3-2k (Projects 3-1 and 3-2 combined):

Under Existing plus Project conditions, Option 1 of combined Projects 3-1 and 3-2 combined would result in a significant impact to transit for Muni bus line 43 in the PM peak hour.

M-TR-P3-2k (Projects 3-1 and 3-2 combined):

Under Existing plus Project conditions in the PM peak hour, combined Projects 3-1 and 3-2 Option 1 would add approximately 324 seconds (5.4 minutes) of total delay. Since the total added delay for Muni bus line 43 would be 5.4 minutes, a total delay of 6 minutes was assumed and, therefore, a significant transit impact would occur with the implementation of Option 1 of combined Projects 3-1 and 3-2 under Existing plus Project conditions. No feasible mitigation measures have been identified to reduce the delay on Muni bus line 43 under Existing plus Project conditions for Option 1. Therefore, a significant transit impact would occur to Muni bus line 43 as a result of implementation of Option 1 of the combined Projects 3-1 and 3-2 under Existing plus Project conditions in the PM peak hour.

Significant Impact TR-P3-2l (Projects 3-1 and 3-2 combined):

Under 2025 Cumulative plus Project conditions, combined Projects 3-1 and 3-2 Option 1 would result in a significant impact to transit for Muni bus line 43 in the PM peak hour.

M-TR-P3-2l (Projects 3-1 and 3-2 combined):

With Option 1 under Existing plus Project conditions in the PM peak hour, combined Projects 3-1 and 3-2 would add approximately 324 seconds (5.4 minutes) of total delay. Since the total added delay for Muni bus line 43 would be 5.4 minutes, a total delay of 6 minutes was assumed

and, therefore, a significant transit impact would occur with the implementation of combined Projects 3-1 and 3-2 under Existing plus Project conditions for Option 1. No feasible mitigation measures have been identified to reduce the delay on Muni bus line 43 under Existing plus Project conditions for Option 1. Therefore, a significant transit impact would occur to Muni bus line 43 as a result of combined Projects 3-1 and 3-2 with Option 1 under Existing plus Project conditions in the PM peak hour.

Significant Impact TR-P3-2m:

Under Existing plus Project conditions, individual Project 3-2 Option 1 would result in a significant impact to transit for Muni bus line 43 in the PM peak hour.

M-TR-P3-2m:

With Option 1 under Existing plus Project conditions, individual Project 3-2 would add approximately 410 seconds (6.8 minutes) of total delay. No feasible mitigation measures have been identified for Option 1 under Existing plus Project conditions in the PM peak hour. Therefore, a significant transit impact would occur to Muni bus line 43 as a result of individual Project 3-2 Option 1 under Existing plus Project conditions in the PM peak hour.

Significant Impact TR-P3-2n:

Under 2025 Cumulative plus Project conditions, individual Project 3-2 Option 1 would result in a significant impact to transit for Muni bus line 43 in the PM peak hour.

M-TR-P3-2n:

With Option 1 under 2025 Cumulative plus Project conditions, individual Project 3-2 would add approximately 804 seconds (13.4 minutes) of total delay to Muni Bus line 43. With mitigation as described in Mitigation Measure M-TR-P3-2j, p. V.A.3-404, transit delay would be reduced over unmitigated conditions with approximately 449 seconds (7.4 minutes) of delay northbound and approximately 233 seconds (3.9 minutes) of delay southbound. However, the total transit delay of 682 seconds (11.3 minutes) would continue to be greater than the transit delay threshold of six minutes. Therefore, no feasible mitigation measures have been identified and a significant transit impact would occur to Muni bus line 43 as a result of individual Project 3-2 Option 1 under 2025 Cumulative plus Project conditions in the PM peak hour.

CLUSTER 4: MISSION BAY/HUNTERS POINT/BAYVIEW AREA[1]

This section provides a description of the Existing plus Project, 2025 Cumulative and 2025 Cumulative plus Project transportation conditions within in Cluster 4. One design option is being proposed for Projects 4-1, 4-3, and 4-5. Two options are proposed for the remaining near-term improvements (Projects 4-2 and 4-4) within Cluster 4.

Figures showing the turning movement traffic volumes and lane configurations at the study intersections in Cluster 4 for Existing plus Project, 2025 Cumulative, and 2025 Cumulative plus Project conditions may be found within the transportation impact analysis discussion for Cluster 4 within the Transportation Impact Study. Level of service calculation sheets for those intersections and transit delay calculation sheets for affected transit routes may be found in the appendices of the Transportation Impact Study.[2]

PROJECT 4-1: 16TH STREET BICYCLE LANES, 3RD STREET TO TERRY FRANCOIS BOULEVARD

Project 4-1 would add one Class II bicycle lane in both directions between 3rd Street and Terry A. François Boulevard by reconfiguring the existing travel lanes and widening the street as part of the Mission Bay Plan.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

There are no transit lines on this segment of 16th Street. Therefore, there would be no transit impacts with implementation of Project 4-1.

PARKING

There is no on-street parking in this segment. Therefore, there would be no parking impact with implementation of Project 4-1.

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1 Unless otherwise indicated, all intersection analysis is for PM Peak Hour conditions.

2 Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study.* This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File No 2007.0347E.

PEDESTRIAN

Pedestrian volumes are very low presently, but could increase as the Mission Bay project is completed. Once the parcels on both sides of 16th Street are fully built, 10-foot wide sidewalks and crosswalks would be constructed. Thus, the interactions between pedestrians and bicyclists would improve as the result of the land development projects in the area. Therefore, there would be no significant pedestrian impacts with implementation of Project 4-1.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. Therefore, Project 4-1 would not result in a significant impact to bicyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

There are currently no active land uses on either side of 16th Street within this segment due to construction in the area. It is expected that new development projects in the area would provide sufficient off-street loading spaces to meet the demand, thus, there would be no loading impacts with implementation of Project 4-1.

PROJECT 4-2: CARGO WAY BICYCLE LANES, 3RD STREET TO JENNINGS STREET

There are two options for this segment of Cargo Way.

- **Option 1**
  Option 1 would add Class II bicycle lanes in both directions and remove on-street parking on the south side of Cargo Way between 3rd and Jennings Streets. Both options would install a Class II left-turn bicycle lane on eastbound Cargo Way approaching Illinois Street and Amador Street.

- **Option 2**
  Option 2 would create a two-way Class I bicycle path on the south side of Cargo Way between Illinois and Jennings Streets. Option 2 would narrow the existing raised median from 13 to eight feet and reduce the width of the travel lanes to 12 feet. The total curb to curb width would be reduced from 79 to 56 feet. Same as Option 1, existing on-street parking spaces on the south side would be removed.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

There are no transit lines on this segment of Cargo Way. Therefore, there would be no transit impacts as a result of Project 4-2 with either Option 1 or Option 2.

PARKING

- **Option 1**
  Option 1 would remove approximately 160 on-street parking spaces on both sides of Cargo Way. Observations[3] show that demand for on-street parking is very low due to the fact that land on the north side of the street is undeveloped and includes an active freight rail track running parallel to the street. In addition, buildings on the south side have sufficient off-street parking lots to accommodate their demand. Consequently, parking demand can be met in this area even with the loss of 160 on-street spaces. Therefore, there would be no significant parking impacts with implementation of Project 4-2 Option 1.

- **Option 2**
  Option 2 would not involve the removal of on-street parking along Cargo Way. Therefore, there would be no parking impacts with implementation of Project 4-2 Option 2.

PEDESTRIAN

Pedestrian volumes are generally very low. There would be no change in sidewalk width or crosswalk layout under Option 1, but Option 2 would improve the sidewalk by relocating street trees from the middle of the existing narrow sidewalk northward to between the proposed bicycle path and existing sidewalk. Therefore, there would be no significant pedestrian impacts as a result of Project 4-2 with either Option 1 or Option 2.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. In addition, under Option 1 the removal of on-street parking adjacent to the bicycle travel way would eliminate the hazard of 'dooring' from parked cars. Hence, Project 4-2 with Option 1 would not have a significant impact on cyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

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[3] Field surveys were conducted by CHS Consulting on Tuesday, September 18, 2007 during the midday.

The proposed Class I bicycle path under Option 2 would benefit bicyclists because they would have a dedicated right-of-way separated from vehicles, buses, and pedestrians. Therefore, there would be no significant bicycle impacts with implementation of Project 4-2 Option 2.

LOADING

Most of the loading activities for the industrial uses in Piers 94/96 and the India Basin Industrial Park occur within the sites and not on the street. Removal of on-street parking under Option 1 would not include any on-street yellow commercial freight loading spaces and there would be no changes in on-street or off-street loading spaces. Therefore, there would be no significant loading impacts with implementation of Project 4-2 with either Option 1 or Option 2.

PROJECT 4-3: ILLINOIS STREET BICYCLE LANES, 16TH STREET TO CARGO WAY

Project 4-3 would add Class II bicycle lanes in both directions between 16th Street and Cargo Way. To accomplish this, approximately 45 on-street parking spaces would be lost on the east side of Illinois Street north of 22nd Street. However, additional parking spaces would be provided on Tennessee Street, 22nd Street, and 24th Street, resulting in a net gain of approximately 99 parking spaces near the project area.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour. Two study intersections are included in Project 4-3 for the PM peak hour, as summarized in Table V.4-2, p. V.A.3-410, and Table V.4-3, on p. V.A.3-410.

TABLE V.4-2
CLUSTER 4 – PROJECT 4-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS
49.	Illinois Street/César Chávez Street	8.7	A	8.7	A
50.	Illinois Street/Mariposa Street/Terry François Boulevard	17.7	B	17.7	B

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

TABLE V.4-3
CLUSTER 4 – PROJECT 4-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS
49.	Illinois Street/César Chávez Street	11.9	B	11.8	B
50.	Illinois Street/Mariposa Street/Terry François Boulevard	54	D	54	D

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

Intersection 49: Illinois Street/Cesar Chavez Street

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS A with 8.7 seconds of delay. The northbound lane configuration would be modified at the Illinois Street/César Chávez Street intersection from one shared through-left turn lane and one shared through-right turn lane to one shared left-through-right turn lane. The southbound lane configuration would be modified from one shared through-left turn lane and one shared through-right turn lane to one shared through-right turn lane and one exclusive left-turn lane. As a result, the intersection would operate satisfactorily at LOS A, with 8.7 seconds of average delay under Existing plus Project conditions, compared to Existing conditions. The traffic volume at this intersection is relatively low. Thus, the changes in the lane configuration under Existing plus Project conditions would not impact the traffic operations. Therefore, Project 4-3 would not cause a significant traffic impact at the Illinois Street/Cesar Chavez Street intersection, as summarized in Table V.4-2, p. V.A.3-240.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Illinois Street/César Chávez Street intersection would operate satisfactorily at LOS B, with 11.9 seconds of average delay under 2025 Cumulative conditions. It would continue to operate satisfactorily at LOS B, with 11.8 seconds of delay under 2025 Cumulative plus Project conditions. The traffic volume at this intersection is relatively low. Thus, the changes in the lane configuration under Existing plus Project conditions would not impact the traffic operations.

Therefore, there would not be any significant impacts at the Illinois Street/Cesar Chavez Street intersection with the implementation of Project 4-3 under 2025 Cumulative plus Project conditions. Table V.4-3, p. V.A.3-241, summarizes these results.

Intersection 50: Illinois Street/Mariposa Street/Terry Francois Boulevard

Existing and Existing plus Project Conditions

No lane configuration adjustments are proposed at the intersection of Illinois Street/Mariposa Street/Terry François Boulevard under Existing plus Project conditions and the intersection would continue to operate satisfactorily at LOS B, with 17.7 seconds of average delay. Therefore, Project 4-3 would not cause a significant impact at the Illinois Street/Mariposa Street/Terry François Boulevard intersection under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Illinois Street/Mariposa Street/Terry François Boulevard intersection would operate satisfactorily at LOS D, with 54 seconds of average delay under 2025 Cumulative conditions and would continue to do so under 2025 Cumulative plus Project conditions. Therefore, a significant traffic impact would not occur at the Illinois Street/Mariposa Street/Terry François Boulevard intersection with the implementation of Project 4-3 under 2025 Cumulative plus Project conditions.

Intersection 50: Illinois Street/Mariposa Street/Terry Francois Boulevard

Existing and Existing plus Project Conditions

No lane configuration adjustments are proposed at the intersection of Illinois Street/Mariposa Street/Terry François Boulevard under Existing plus Project conditions and the intersection would continue to operate satisfactorily at LOS B, with 17.7 seconds of average delay. Therefore, Project 4-3 would not cause a significant impact at the Illinois Street/Mariposa Street/Terry François Boulevard intersection under Existing plus Project conditions. Table V.4-2, p. V.A.3-410, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Illinois Street/Mariposa Street/Terry François Boulevard intersection would operate satisfactorily at LOS D, with 54 seconds of average delay under 2025 Cumulative conditions and would continue to do so under 2025 Cumulative plus Project conditions. Therefore, a significant traffic impact would not occur at the Illinois Street/Mariposa Street/Terry François Boulevard

intersection with the implementation of Project 4-3 under 2025 Cumulative plus Project conditions. Table V.4-3, p. V.A.3-411, summarizes these results.

TRANSIT

Muni bus line 48 runs southbound on Illinois Street between 20th and 22nd Streets, with approximately five buses per hour each way during the AM and PM peak periods. There are no bus stops along this segment of Illinois Street, so there would be no conflicts between bicyclists and buses relating to buses entering and exiting a bus stop. In addition, there would be no measurable change in Muni travel time along these two blocks of Illinois Street due to minimal effects on traffic delay. Therefore, there would be no significant transit impacts with implementation of Project 4-3.

PARKING

With Project 4-3, there would be a net gain of approximately 99 on-street parking spaces along Illinois and Tennessee Streets. However, parking layout and locations would change. There would be a loss of approximately 45 on-street parking spaces on the east side of Illinois Street north of 22nd Street due to the conversion of diagonal parking spaces to parallel spaces. The project would add approximately 144 parking spaces at other locations: 50 spaces along Tennessee Street between 18th and 20th Streets, 40 spaces along 24th Street east of Illinois Street, and 54 spaces on the east side of Illinois Street, south of 25th Street.

The midday parking occupancy rate along Illinois Street north of 25th Street was approximately 81 percent on the west side of Illinois Street and approximately 94 percent on the east side. The loss of 45 spaces between 20th and 22nd Streets would be offset by the increase in parking in the project area. However, drivers in the affected locations would have to find parking along 24th Street or on the south side of 25th Street and walk a few more blocks to reach their destinations. Because parking supply would increase with implementation of Project 4-3, there would be no significant parking impacts.

PEDESTRIAN

Pedestrian volumes are generally low, and there would be no changes in sidewalk width or crosswalk layout. The interactions between pedestrians and bicyclists would not change as a result of Project 4-3. Therefore, there would be no pedestrian impacts with implementation of Project 4-3.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. Change of diagonal parking to parallel parking on the east side of Illinois Street would eliminate the hazard resulting from vehicles backing out of the diagonal parking with poor visibility of approaching traffic. Several buildings along the west side of Illinois Street have their loading docks flush with the building façade and trucks park perpendicular to the building to make deliveries. Occasional truck double parking was also observed.[4] In cases when a truck double parked or parked perpendicular to the building, they may infringe on the proposed Class II bicycle lane, causing a conflict with bicycle movement. This condition occurs mostly during midday when bicycle volumes are low and does not represent a change from existing conditions. Therefore, Project 4-3 would not result in a significant impact to bicyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

The change of diagonal parking to parallel parking on the east side of Illinois Street would not affect any existing loading spaces. Currently, there are very few buildings on the east side of Illinois Street. Therefore, there would be no significant loading impacts with implementation of Project 4-3.

PROJECT 4-4: INNES AVENUE BICYCLE LANES, DONAHUE STREET TO HUNTERS POINT BOULEVARD

There are two options for this segment of Innes Avenue.

- **Option 1**
  Option 1 would add Class II bicycle lanes in both directions along Innes Avenue between Donahue Street and Hunters Point Boulevard. Project 4-4 would also remove on-street parking on the south side of Innes Avenue between Hunters Point Boulevard and Earl Street and on both sides between Earl and Donahue Streets.

- **Option 2**
  Option 2 would be similar to Option 1 except for the segment from Hunters Point Boulevard to Earl Street, where sharrows would be added to the existing Class III bicycle route in both directions. There would be no parking or travel lane removals associated with Option 2 between Hunters Point Boulevard and Earl Street.

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[4] Field surveys were conducted by CHS Consulting on Tuesday, September 18, 2007 during the midday.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus line 19 runs in both directions along Innes Avenue between Hunters Point Boulevard and Donahue Street, with approximately six buses per hour each way during the AM and PM peak periods. There are nearside Muni bus stops on both sides of the street at Griffith Street, Arelious Walker Drive, and Earl Street and one northbound bus stop on the far-side of Donahue Street. In general, Muni boardings at these stops are very low. Because both transit and bicycle volumes are very low in this area, there is little or no interaction between buses and bicyclists. Project 4-4 would not change transit capacity, operation, or travel time or the interactions between buses and bicyclists. Therefore, there would be no significant transit impacts with implementation of Project 4-4 with either Option 1 or Option 2.

PARKING

- **Option 1**
  Option 1 would remove approximately 135 on-street parking spaces between Hunters Point Boulevard and Donahue Street, with 75 spaces on the south side of Innes Avenue between Hunters Point Boulevard and Earl Street and 60 spaces on both sides between Earl and Donahue Streets.

- **Option 2**
  Option 2 would involve removal of approximately 60 spaces on both sides between Earl and Donahue Streets.

  There are few active land uses along Project 4-4 with activity concentrated on Innes Avenue between Hunters Point Boulevard and Earl Street. Consequently, on-street parking occupancy is very low and existing demand can be accommodated even with the reduction in supply from implementation of either Option 1 or Option 2. Therefore, there would be no significant parking impacts resulting from Project 4-4 with either Option 1 or Option 2. It should be noted that with the proposed development in the Hunters Point Shipyard, the future parking utilization in the vicinity of Donahue Street is expected to increase.

PEDESTRIAN

Pedestrian volumes are very low in this industrial and mostly vacant area, and there would be no changes in sidewalk width or crosswalk layout. The interactions between pedestrians and

bicyclists would not change as a result of either option. Therefore, there would be no pedestrian impacts as a result of Project 4-4 with either Option 1 or Option 2.

BICYCLE

With both Option 1 and 2, bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. The installation of sharrows with Option 2 would increase motor vehicle drivers' awareness that bicyclists may be on the road and would help bicyclists identify a safe travel pathway outside the "door zone".[5] Hence, both options of Project 4-4 would not have a significant impact on cyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Innes Avenue has some industrial uses and residential buildings, but the majority of the street frontage is either a hill or vacant lots. On-street parking removal would not include any on-street yellow commercial freight loading spaces. On-street loading demand in this area is low, and even with parking removal the available on-street and off-street parking spaces could accommodate any potential loading needs. Therefore, there would be no significant loading impacts as a result of Project 4-4 with either Option 1 or Option 2.

PROJECT 4-5: MISSISSIPPI STREET BICYCLE LANES, 16TH STREET TO MARIPOSA STREET

Project 4-5 would add a five-foot wide Class II bicycle lane in each direction between 16th and Mariposa Streets by allocating 8 feet for parking and narrowing the travel lanes to 12 feet.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

Transit

There are no transit lines on this segment of Mississippi Street. Therefore, there would be no transit impacts with implementation of Project 4-5.

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[5] The "door zone" refers to that area adjacent to a parked car where a bicyclist runs the risk of being hit by a suddenly opened car door.

Parking

There would be no changes in parking layout or in the number of parking spaces in this segment of Mississippi Street. Therefore, there would be no parking impacts with implementation of Project 4-5.

Pedestrian

There would be no changes in sidewalk width or crosswalk layout. The interactions between pedestrians and bicyclists would not change as a result of Project 4-5. Therefore, there would be no pedestrian impacts with implementation of Project 4-5.

Bicycle

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. However, there is potential for parked trucks to infringe upon the proposed bicycle lane or conflict with bicycle movement when backing into the street. Bicycle volumes and loading activity are generally low in this area and these conflicts would not represent a change from existing conditions. Therefore, Project 4-5 would not result in a significant impact to bicyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Mississippi Street is in an industrial area. The current interactions between loading vehicles and bicyclists would not change as a result of Project 4-5 and would not affect loading activity. There would also be no changes to the available on-street or off-street loading spaces along this segment. Therefore, there would be no significant loading impacts with implementation of Project 4-5.

CLUSTER 4: SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

No significant impacts were identified in Cluster 4.

CLUSTER 5: MISSION/GLEN PARK/EXCELSIOR AREA[6]

This section provides a description of the Existing plus Project and 2025 Cumulative and 2025 Cumulative plus Project transportation conditions within the near-term improvements in

[6] Unless otherwise indicated, all intersection analysis is for PM Peak Hour conditions.

Cluster 5. Projects 5-1, 5-2, 5-3, 5-7, 5-8 and 5-11 have one design option; the remaining projects have two design options.

The Existing plus Project, 2025 Cumulative, and 2025 Cumulative plus Project turning movement traffic volumes at the study intersections within Cluster 5, the intersection lane configurations at those intersections, and the level of service and transit delay calculation sheets can be found in the TIS.

PROJECT 5-1: 23RD STREET BICYCLE LANES, KANSAS STREET TO POTRERO AVENUE

Project 5-1 would involve the installation of a Class II bicycle lane in the eastbound direction and the addition of sharrows to the existing Class III bicycle route in the westbound direction. Project 5-1 would not involve travel lane or parking removal. However, travel lanes would be narrowed from 12 to 10 feet, and the parking on the north side of the street would be reduced from eight to seven feet in width in order to create space for the eastbound bicycle lane.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour.

PM Peak Hour

One study intersection is included for the PM Peak Hour for Project 5-1. Table V.5-12, p. V.A.3-418, and Table V.5-13, p. V.A.3-419, summarize these results.

TABLE V.5-12
CLUSTER 5 – PROJECT 5-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

	Intersection	Existing		Existing plus Project	
		Average Delay[a]	LOS	Average Delay[a]	LOS
19.	Potrero Avenue/23rd Street	24.7	C	24.7	C

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

TABLE V.5-13
CLUSTER 5 – PROJECT 5-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS
19.	Potrero Avenue/23rd Street	26.9	C	26.9	C

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

Intersection 19: Potrero Avenue/23rd Street

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS C with a delay of 24.7 seconds. The Potrero Avenue/23rd Street intersection would continue to operate satisfactorily at LOS C, with 24.7 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, Project 5-1 would not cause a significant impact to the Potrero Avenue/23rd Street intersection under Existing plus Project conditions. See Table V.5-12, p. V.A.3-418, for these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions

Under 2025 Cumulative conditions, the Potrero Avenue/23rd Street intersection would operate satisfactorily at LOS C, with 26.9 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate satisfactorily at LOS C, with 26.9 seconds of delay. Therefore, a significant impact would not occur at this intersection with the implementation of Project 5-1. See Table V.5-13, p. V.A.3-419, for these results.

TRANSIT

Muni bus line 48 and UCSF Blue/Gold shuttles run along this segment of 23rd Street, with approximately nine buses per hour each way and three westbound and seven eastbound UCSF shuttles during the AM and PM peak periods.

Project 5-1 would narrow both travel lanes from 12 to 10 feet in width and the westbound on-street parking lane from 8 to 7 feet in width. The reduction in width of travel and on-street parking lanes, with Project 5-1, would not effect Muni or UCSF shuttle operations. Bus and bicycle interaction would not change with Project 5-1 from existing conditions. Therefore, there would be no significant transit impact with implementation of Project 5-1.

PARKING

Project 5-1 would narrow the westbound parking lane to 7 feet, but there would be no parking removal. Therefore, there would be no significant parking impacts with implementation of Project 5-1.

PEDESTRIAN

Pedestrian volumes are heaviest at the crosswalks at the T-intersection in front of the SFGH main entrance. Because there are stop signs for through traffic at this location on 23rd Street, bicycles and motor vehicles would have to stop and would in effect accommodate safe crossing for pedestrians at this location. Furthermore, there would be no changes in the sidewalk width or crosswalk layout, and the interactions between pedestrians and bicyclists would not change as a result of Project 5-1. Therefore, there would be no pedestrian impacts with implementation of Project 5-1.

BICYCLE

The installation of sharrows would increase the motor vehicle driver's awareness that bicyclists may be on the road as well as identify to the bicyclists the pathway outside the 'door zone'.[7] Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. Hence, Project 5-1 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of 23rd Street has hospital buildings on the north side and a parking garage and residential uses on the south side. The hospital's loading demand is generally accommodated at off-street loading facilities on the campus. The proposed new SFGH acute care buildings include loading improvement measures that require that SFGH assess the loading needs at each location or building, and then develop a plan for either consolidating loading operations at the main loading dock behind Building 5 and then redistributing to other buildings, or creating

[7] See note on San Francisco's Shared Lane Pavement Markings: Improving Bicycle Safety.

additional loading spaces at the buildings/locations where needed. Only occasional double-parking was observed[8] along 23rd Street west of Utah Street. There would be no changes in the number or location of on-street yellow commercial freight loading spaces or access to off-street loading facilities. Therefore, there would be no significant loading impacts with implementation of Project 5-1.

PROJECT 5-2: ALEMANY BOULEVARD BICYCLE LANES, BAYSHORE BOULEVARD TO ROUSSEAU STREET

Project 5-2 would add a Class II bicycle lane in each direction on Alemany Boulevard between Rousseau and Putnam Streets and sharrows in both directions between Bayshore Boulevard and Putnam Street. Project 5-2 would remove an eastbound travel lane between Rousseau and Trumbull Streets and one westbound lane between Putnam and Ellsworth Streets. Approximately 375 under-utilized on-street parking spaces would be removed, north side of Alemany Boulevard between Ellsworth and Rousseau Streets and south side between Rousseau and Putnam Streets. The project would also add a left-turn Class II bicycle lane on eastbound Alemany Boulevard approaching Bayshore Boulevard.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour.

PM Peak Hour

Three study intersections are included for the PM Peak Hour for Project 5-2.

One study intersection is included for the PM peak hour for Project 5-2. Table V.5-14, p. V.A.3-424, and Table V.5-15, p. V.A.3-425, summarize these results for Existing plus Project and Cumulative plus Project PM Peak Hour.

Intersection 26: Bayshore Boulevard/Alemany Boulevard/Industrial Street

The Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection is common to Projects 5-2 and 5-4 within the Cluster 5 area. Only one design option is proposed for Project 5-2. However, for Project 5-4, two design options - Option 1 and Option 2 are proposed. For Project 5-2, no lane configuration changes are proposed relative to Existing conditions. For Project 5-4, Option 1 would reduce one through lane in the northbound direction. Option 2 for

[8] Field surveys were conducted by CHS Consulting on Tuesday, September 18, 2007 during the midday.

Project 5-4 would result in the replacement of a shared through-right lane in the northbound direction with an exclusive right-turn lane. Since combined Projects 5-2 and 5-4 would not result in a significant traffic impact at the intersection of Bayshore Boulevard/Alemany Boulevard/Industrial Street for the PM peak hour under Existing plus Project conditions, there would be no significant traffic impact at the intersection of Bayshore Boulevard/Alemany Boulevard/Industrial Street for the PM peak hour under Existing plus Project and 2025 Cumulative plus Project conditions. Therefore, the analysis below reflects the impacts of both projects.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 5-2 and 5-4 combined
  Under Existing conditions, this intersection operates at LOS D with 51.2 seconds of delay. The Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection would operate unsatisfactorily at LOS D, with 52.3 seconds of average delay under Existing plus Project conditions for Projects 5-2 and 5-4 combined. The northbound lane configuration would be modified from two through lanes, one exclusive left-turn lane, and one shared through-right turn lane to one through lane, one exclusive left-turn lane, and one shared through-right turn lane. Since the intersection continues to operate at an acceptable LOS, Projects 5-2 and 5-4 Option 1 would not cause a significant traffic impact to the Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection under Existing plus Project conditions. Table V.5-14, p. V.A.3-424 summarizes these results.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-2 and 5-4 combined
  The Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection would operate unsatisfactorily at LOS F in the PM Peak Hour, with more than 80 seconds of average delay under 2025 Cumulative conditions. With implementation of Option 1 of the combined Projects 5-2 and 5-4 under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. However, there would be no change in LOS for the southbound critical movement; therefore, a significant impact would not occur at this intersection with the implementation of Projects 5-2 and 5-4 combined Option 1. Table v.5-15 on p. V.A.3-425 summarizes these results.

- **Option 2**

  Existing and Existing plus Project Conditions for Projects 5-2 and 5-4 combined
  Under Existing conditions, this intersection operates at LOS D with 51.2 seconds of delay. The Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection would operate unsatisfactorily at LOS D, with 51.7 seconds of delay under Existing plus Project

conditions for Option 2 of the combined Projects 5-2 and 5-4 combined. The northbound lane configuration would be modified from two through lanes, one exclusive left-turn lane, and one shared through-right turn lane to two through lanes, one exclusive left-turn lane, and one exclusive right-turn lane. Since the intersection continues to operate at an acceptable LOS, Projects 5-2 and 5-4 combined Option 2 would not cause a significant traffic impact to the Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection under Existing plus Project conditions. Please see Table V.5-20 on p. V.A.3-438.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-2 and 5-4 combined

The Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection would operate unsatisfactorily at LOS F in the PM Peak Hour, with more than 80 seconds of average delay for Option 2 of the combined Projects 5-2 and 5-4 combined under 2025 Cumulative conditions. The Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there would be no change in LOS for the southbound critical movement; therefore, a significant impact would not occur at this intersection with the implementation of Option 2 of the combined Projects 5-2 and 5-4. Please see Table V.5-21 on p. V.A.3-438.

Intersection 33: Putnam Street/I-280 Off-Ramp/Alemany Boulevard

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS C with 25.5 seconds of delay. The Putnam Street/I-280 Off-Ramp/Alemany Boulevard intersection would operate satisfactorily at LOS C, with 25.5 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay at this intersection, compared to Existing conditions. Therefore, Project 5-2 would not cause a significant impact to the Putnam Street/I-280 Off-Ramp/Alemany Boulevard intersection under Existing plus Project conditions. Table V.5-14, p V.A.3-424, summarizes these results.

TABLE V.5-14
CLUSTER 5 – PROJECT 5-2 [b]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS
26.	Bayshore Boulevard/Alemany Boulevard/Industrial Street[b]	51.2	D	52.3	D
33.	Putnam Street/I-280 off-ramp/Alemany Boulevard	25.5	C	25.5	C
36.	Justin Drive/Congdon Street/Alemany Boulevard	20	C	20.5	C

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. LOS and average delay for Bayshore Boulevard/Alemany Boulevard/Industrial Street for combined impacts of Projects 5-2 and 5-4.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Putnam Street/I-280 Off-Ramp/Alemany Boulevard intersection would operate satisfactorily at LOS D, with 39.4 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate satisfactorily at LOS D, with 39.4 seconds of delay under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at this intersection with the implementation of Project 5-2. Table V.5-15, p. V.A.3-425, below, summarizes these results.

TABLE V.5-15
CLUSTER 5 – PROJECT 5-2 [c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

	Intersection	2025 Cumulative		2025 Cumulative plus Project	
		Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
26.	Bayshore Boulevard/Alemany Boulevard/Industrial Street[c]	**>80**	**F**	**>80**	**F**
33.	Putnam Street/I-280 off-ramp/Alemany Boulevard	39.4	D	39.4	D
36.	Justin Drive/Congdon Street/Alemany Boulevard	53.5	D	30	C

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for Bayshore Boulevard/Alemany Boulevard/Industrial Street for combined impacts of Projects 5-2 and 5-4.

Intersection 36: Justin Drive/Congdon Street/Alemany Boulevard

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS C with 20 seconds of delay. The Justin Drive/Congdon Street/Alemany Boulevard intersection would operate satisfactorily at LOS C, with 25.5 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration would be modified from two through lanes and one shared through-right turn lane to two through lanes and one exclusive right-turn lane. The westbound lane configuration would be modified from two through lanes and one shared through-right turn lane to one through lane and one shared through-right turn lane. Due to the reduction of capacity in the westbound direction and the lane configuration adjustment in the eastbound direction, there would be an increase in delay along these approaches. However, the average intersection delay would increase by 0.5 seconds, compared to Existing conditions. Therefore, Project 5-2 would not cause a significant traffic impact to the Justin Drive/Congdon Street/Alemany Boulevard intersection under Existing plus Project conditions. Table V.5-14, p. V.A.3-424, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Justin Drive/Congdon Street/Alemany Boulevard intersection would operate satisfactorily at LOS D, with 53.5 seconds of average delay under 2025 Cumulative conditions. The Justin Drive/Congdon Street/Alemany Boulevard intersection would operate satisfactorily at LOS C, with 30 seconds of delay under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at this intersection with the implementation of Project 5-2. Table V.5-15, p. V.A.3-425 summarizes these results.

TRANSIT

Project 5-2 shares a common intersection (Intersection 26: Bayshore Boulevard/Alemany Boulevard/Industrial Street) with Project 5-4: Alemany Boulevard Bicycle Lanes, Bayshore Boulevard to Rousseau Street. The transit delay analysis below (Projects 5-2 and 5-4 combined) reflects the combined impact of Projects 5-2 and 5-4 modifications to the Alemany Boulevard Bicycle Lanes, Bayshore Boulevard to Rousseau Street intersection on transit delay. The impacts resulting from the implementation of individual Project 5-2 (Project 5-2) without Project 5-4 modifications will follow.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 5-2 and 5-4 combined
  Under Existing conditions, for combined Project 5-4 and Project 5-2 Option 1 would add no delay for Muni bus lines 9, 9X, 9AX and SamTrans 292 southbound and approximately 147 seconds (2.5 minutes) of delay northbound in the PM peak period. Option 1 would add approximately 190 seconds (3.2 minutes) of delay for Muni bus lines 23 and 24 southbound with no change in delay northbound in the PM peak period. The headways for transit service on this segment of Bayshore Boulevard range from 8 to 30 minutes; the total added delay of approximately 147 seconds (2.5 minutes) for Muni bus lines 9, 9X, 9AX and SamTrans 292 or 190 seconds (3.2 minutes) for Muni bus lines 23 and 24 would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with the implementation of Projects 5-2 and 5-4 combined Option 1 under Existing plus Project conditions.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-2 and 5-4 combined
  Under Cumulative conditions, for combined Project 5-4 and Project 5-2, Option 1 would add no delay for Muni bus lines 9, 9X, 9AX and SamTrans 292 southbound and approximately 417 seconds (7.0 minutes) of delay northbound in the PM peak period. Option 1 would add approximately 12 seconds of delay for Muni bus lines 23 and 24 southbound and 58 seconds of delay northbound in the PM peak period. The headways

for transit service on this segment of Bayshore Boulevard range from 8 to 30 minutes; the total added delay of approximately 417 seconds (7.0 minutes) for Muni bus lines 9, 9X, 9AX and SamTrans 292 would be greater than the transit delay threshold of 6 minutes. The total added delay of approximately 70 seconds (1.2 minutes) for Muni bus lines 23 and 24 would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact (Significant Impact TR-P5-4f and TR-P5-4g) would occur for Muni bus lines 9, 9X, 9AX and SamTrans 292 with the implementation of Projects 5-2 and 5-4 combined Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 5-2 and 5-4 combined
Under Existing conditions, for combined Project 5-4 and Project 5-2 Option 2 would add no delay for Muni bus lines 9, 9X, 9AX and SamTrans 292 southbound and approximately 20 seconds of delay northbound in the PM peak period. Option 2 would not impact operation of Muni bus lines 23 or 24 in either the northbound or southbound directions in the PM peak hour. The headways for transit service on this segment of Bayshore Boulevard range from 8 to 30 minutes; the total added delay of approximately 20 seconds for Muni bus lines 9, 9X, 9AX and SamTrans 292 would be less than the transit delay threshold of 6 minutes. There would be no change in delay for Muni bus lines 23 and 24. Therefore, a significant transit impact would not occur with implementation of Projects 5-2 and 5-4 combined Option 2 under Existing plus Project Conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-2 and 5-4 combined
Under Cumulative conditions, for combined Project 5-4 and Project 5-2, Option 2 would add no delay for Muni bus lines 9, 9X, 9AX and SamTrans 292 southbound and approximately 103 seconds (1.7 minutes) of delay northbound in the PM peak period. Option 2 would not impact operation of Muni bus lines 23 or 24 in either the northbound or southbound directions in the PM peak hour. The headways for transit service on this segment of Bayshore Boulevard range from 8 to 30 minutes; the total added delay of approximately 103 seconds (1.7 minutes) for Muni bus lines 9, 9X, 9AX and SamTrans 292 would be less than the transit delay threshold of 6 minutes. There would be no change in delay for Muni bus lines 23 and 24. Therefore, a significant transit impact would not occur with implementation of Projects 5-2 and 5-4 combined Option 2 under 2025 Cumulative plus Project conditions.

Project Conditions for Project 5-2 alone
Muni bus line 14X runs in both directions along this segment, and Muni bus line 67 runs only in the westbound direction. Muni bus line 23 runs in both directions on Alemany Boulevard between Bayshore Boulevard and Putnam Street with no stops along this section. There are approximately 14 westbound buses and 10 eastbound buses per hour

during the peak periods. The two westbound Muni bus stops in this segment are located on the nearside of Folsom Street and on the far side of Ellsworth Street. Project 5-2 would not cause any Muni delay in this section of Alemany Boulevard because there would be no change to the existing Muni bus stop configuration or location; therefore there would be no significant transit impacts as a result of implementation of Project 5-2 alone.

PARKING

Project 5-2 would remove a total of approximately 375 on-street parking spaces on the north side of Alemany Boulevard between Ellsworth and Rousseau Streets and on the south side between Rousseau and Putnam Streets. The I-280 freeway is located on the south side of Alemany Boulevard between Bayshore Boulevard and the overpass over I-280. Land uses on the north side of Alemany Boulevard include an industrial building and three to four story residential buildings. The industrial building has its own parking lot and the residential buildings have parking garages and lots. The demand for on-street parking spaces was observed to be low during the weekday midday. On the weekends, the parking demand is high in the vicinity of Alemany Boulevard and Putnam Street due the Farmers' Market and Flea Market. Demand for weekday on-street parking would be accommodated with the supply remaining after implementation of Project 5-2.

San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

In San Francisco, parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social effects need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact. (CEQA Guidelines Section 15131(a).) The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and

find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor. Therefore, there would be no significant parking impacts with implementation of Project 5-2.

PEDESTRIAN

The I-280 freeway is located on the south side of Alemany Boulevard, and there is no sidewalk on either side of Alemany Boulevard between Justin Drive and Ellsworth Street. Pedestrian volumes are generally very low along the segment of Alemany Boulevard which has high traffic speed. Project 5-2 would not change existing conditions for pedestrians; therefore, there would be no pedestrian impacts related to implementation of Project 5-2.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. Hence, Project 5-2 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Alemany Boulevard has residential buildings on the north side and the I-280 freeway on the south side; consequently on-street loading demand is very low. No double-parking was observed. The removal of on-street parking would not remove on-street commercial freight loading spaces. Therefore, there would be no loading impacts with implementation of Project 5-2.

PROJECT 5-3: ALEMANY BOULEVARD BICYCLE LANES, ROUSSEAU STREET TO SAN JOSE AVENUE

Project 5-3 was implemented on April 28, 2006 prior to the Bicycle Plan injunction; as such, post-project implementation conditions describe what is on the ground today and are analyzed under Existing plus Project and 2025 Cumulative plus Project conditions. Pre-project conditions describe what existed before the implementation of Project 5-3 and are analyzed under Existing and 2025 Cumulative conditions.

As a result of Project 5-3, one travel lane was removed and six-foot Class II bicycle lanes were added in each direction on Alemany Boulevard between Rousseau Street and San Jose Avenue with the exception of the following segments: northbound Alemany Boulevard between Niagara Avenue and Geneva Avenue, and southbound Alemany Boulevard between Seneca Avenue and Geneva Avenue. No travel lanes were removed along these segments, and sharrows were added to the existing Class III bicycle route along these segments. A right-turn lane was added on the nearside of Ocean Avenue in the southbound direction by removing approximately two on-street parking spaces.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour.

PM Peak Hour

Two study intersections are included for the PM Peak Hour for Project 5-3.

Intersection 34: Alemany Boulevard/Ocean Avenue

The Alemany Boulevard/Ocean Street intersection is common to Projects 5-3 and 5-9 within the Cluster 5 area. Only one design option is proposed for Project 5-3. However, for Project 5-9, two design options, Option 1 and Option 2, are proposed. For both Projects 5-3 and 5-9, no lane configuration changes are proposed relative to Existing conditions for Option 1. Similarly, for Project 5-9, Option 2 no lane configuration changes are proposed relative to Existing conditions. Since there are no lane configuration changes with either near-term improvements, the impacts of both Projects 5-3 and 5-9 would not result in a significant traffic impact for the PM peak hour.

Since combined Projects 5-3 and 5-9 would not result in a significant traffic impact at the intersection of Alemany Boulevard/Ocean Avenue for the AM peak hour under Existing plus Project conditions, there would be no significant traffic impact from individual Project 5-3 at the

intersection of Alemany Boulevard/Ocean Avenue for the AM peak hour under Existing plus Project or 2025 Cumulative plus Project conditions.

- **Option 1**

Existing and Existing plus Project Conditions for Projects 5-3 and 5-9 combined

Under Existing conditions, this intersection operates at LOS B with 16.1 seconds of delay. The Alemany Boulevard/Ocean Avenue intersection would operate satisfactorily at LOS B, with 17.3 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from one through lane, one shared through-left turn lane, and one shared through-right turn lane to one shared through-left turn lane and one shared through-right turn lane. The southbound lane configuration would be modified from one through lane, one shared through-left turn lane, and one shared through-right turn lane to one through lane, one shared through-left turn lane, and one exclusive right-turn lane. Due to the reduction of capacity in the northbound direction and the lane configuration adjustment in the southbound direction, there would be an increase in delay along these approaches. However, the average intersection delay would increase by 1.2 seconds, compared to Existing conditions. Therefore, implementation of Option 1 of the combined Projects 5-3 and 5-9 would not cause a significant traffic impact to the Alemany Boulevard/Ocean Avenue intersection under Existing plus Project conditions. Table V.5-16, p V.A.3-431, summarizes these results.

TABLE V.5-16
CLUSTER 5 – PROJECT 5-3 [b]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS	Average Delay[a]	LOS
34.	Alemany Boulevard/Ocean Avenue[b]	16.1	B	17.3	B	-	-
35.	Alemany Boulevard/Sickles Avenue	41.2	D	42.1	D	41.2	D

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.
b. LOS and average delay for Alemany Boulevard/Ocean Avenue for combined impacts of Projects 5-3 and 5-9.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-3 and 5-9 combined

The Alemany Boulevard/Ocean Avenue intersection would operate satisfactorily at LOS B in the PM Peak Hour, with 17.6 seconds of average delay under 2025 Cumulative

conditions. The Alemany Boulevard/Ocean Avenue intersection would operate satisfactorily at LOS C, with 20.4 seconds of delay, and the eastbound critical movement would not operate at an unacceptable LOS under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at this intersection with the implementation of Option 1 of the combined Projects 5-3 and 5-9. Table V.5-17, p. V.A.3-432, summarizes these results.

TABLE V.5-17
CLUSTER 5 – PROJECT 5-3[c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
34.	Alemany Boulevard/Ocean Avenue[c]	17.6	B	20.4	C	-	-
35.	Alemany Boulevard/Sickles Avenue	**>80**	**F**	**>80**	**F**	**>80**	**F**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for Alemany Boulevard/Ocean Avenue for combined impacts of Project 5-3 and 5-9

- **Option 2**

Existing and Existing plus Project Conditions for Projects 5-3 and 5-9 combined
Under Existing conditions, this intersection operates at LOS B with 16.1 seconds of delay. The Alemany Boulevard/Ocean Avenue intersection would operate satisfactorily at LOS B, with 16.1 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, Projects 5-3 and 5-9 combined Option 2 would not cause a significant impact to the Alemany Boulevard/Ocean Avenue intersection under Existing plus Project conditions. Table V.5-16, p. V.A.3-431, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-3 and 5-9 combined
The Alemany Boulevard/Ocean Avenue intersection would operate satisfactorily at LOS B in the PM Peak Hour, with 17.6 seconds of delay, and the eastbound critical movement would not operate at an unacceptable LOS under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at this intersection with the

implementation for Projects 5-3 and 5-9 combined Option 2. Table V.5-17, p. V.A.3-432 summarizes these results.

Intersection 35: Alemany Boulevard/Sickles Avenue

- **Option 1**

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS D with 41.2 seconds of delay. The Alemany Boulevard/Sickles Avenue intersection would operate satisfactorily at LOS D, with 42.1 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration is modified from one through lane, one shared through-left turn lane, and one shared through-right turn lane to one shared through-left turn lane and one through-right turn lane. Due to the reduction of capacity in the eastbound direction, there is an increase in delay along this approach. The average intersection delay would increase by 0.9 seconds, compared to Existing conditions. Therefore, Project 5-3 Option 1 has not caused a significant traffic impact to the Alemany Boulevard/Sickles Avenue intersection under Existing plus Project conditions. Table V.5-16, p. V.A.3-431, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions

Under 2025 Cumulative conditions, the Alemany Boulevard/Sickles Avenue intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay. Under 2025 Cumulative plus Project conditions, the Alemany Boulevard/Sickles Avenue intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Because the southbound critical movements at Alemany Boulevard/Sickles Avenue would not deteriorate; a significant impact would not occur at this intersection with the implementation for Project 5-3 Option 1. Table V.5-17, p. V.A.3-432, summarizes these results.

- **Option 2**

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS D with 41.2 seconds of delay. The Alemany Boulevard/Sickles Avenue intersection would operate satisfactorily at LOS D, with 41.2 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there is no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, Project 5-3 Option 2 has not caused a significant impact to the Alemany Boulevard/Sickles Avenue intersection under Existing plus Project conditions. Table V.5-16, p. V.A.3-431, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions

Under 2025 Cumulative plus Project 5-3 Option 2 conditions, the Alemany Boulevard/Sickles Avenue intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at this intersection with the implementation of Project 5-3 Option 2. Table V.5-17, p. V.A.3-432, summarizes these results.

TRANSIT

Muni bus lines 44 and 52 operate along Alemany Boulevard between Silver Avenue and Rousseau Street with approximately 10 buses per hour in each direction during the AM and PM peak periods. There are no transit lines along the other sections of the corridor. Transit volumes are moderate and bicycle volumes are low along the segment between Silver Avenue and Rousseau Street, which is only approximately two blocks long.

Project 5-3 provided 9-foot wide bus stops adjacent to the proposed bicycle lane. The reduction of one travel lane in this section of Alemany Boulevard has not affected Muni travel time. With sufficient space and relatively low potential for conflicts between buses and bicyclists, there have been no impacts on transit travel time or transit operation. Therefore, there are no significant transit impacts with implementation of Project 5-3.

PARKING

Project 5-3 removed approximately two on-street parking spaces on the nearside of Ocean Avenue in the southbound direction. The minor change in the number of parking spaces would not affect access to parking because occupancy in this area is relatively low. Therefore, there are no significant parking impacts with implementation of Project 5-3.

PEDESTRIAN

Pedestrian volumes are generally low, but moderate at intersections with yellow crosswalks designated for the schools along Alemany Boulevard specifically at Onondaga Avenue, Santa Rosa Avenue, and Cotter Street during before and after school hours (approximately 30 minutes around 8:00 a.m. and 3:00 p. m.). Bicycle volumes making right turns at the intersections are also low, so the potential for conflicts between pedestrians and bicyclists is low. There were no changes in sidewalk width or crosswalk layout as a result of Project 5-3. Therefore, there are no significant pedestrian impacts with implementation of Project 5-3.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. The installation of sharrows increased motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone'.[9] Therefore, Project 5-3 has not resulted in a significant impact to bicyclists, but has had the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Alemany Boulevard has mostly residential use, which has a low on-street loading demand. No double-parking in the area was observed. Therefore, there are no significant loading impacts with implementation of Project 5-3.

PROJECT 5-4: BAYSHORE BOULEVARD BICYCLE LANES, CESAR CHAVEZ STREET TO SILVER AVENUE

There are two options for this segment of Bayshore Boulevard.

Both Options 1 and 2 would add a Class II bicycle lane in each direction between Cesar Chavez Street and Silver Avenue.

- **Option 1**

  Option 1 would remove a travel lane in each direction between Cesar Chavez Street and Silver Avenue. This option would remove approximately 15 on-street parking spaces on the east side of Bayshore Boulevard between Silver Avenue and Boutwell Street.

- **Option 2**

  Option 2 would add sharrows in each direction between Cesar Chavez Street and approximately the beginning of the couplet split. This option would remove on-street parking on both sides of Bayshore Boulevard from the couplet split to Industrial Street

[9] In February 2004, Alta Planning + Design completed a study, San Francisco's Shared Lane Pavement Markings: Improving Bicycle Safety, on shared lane markings for Class III bicycle ways in San Francisco. In this study, a key conclusion was that the pavement markings (also known as sharrow markings) increased the awareness of the bicyclists' and motorists' position on the road. Bicyclists tended to ride further from parked cars, and motorists tended to pass bicyclists at a greater distance from the pavement marking. The report's recommendation was to use the sharrow markings on appropriate shared lanes but not as a substitution for bicycle lanes where feasible.

and remove one northbound lane starting from mid-block between Helena and Industrial Streets.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

AM Peak Hour

One study intersection is included for the AM Peak Hour for Project 5-4. Tables V.5-18, p. V.A.3-436, and V.5-19, p. V.A.3-436, summarize these results.

TABLE V.5-18
CLUSTER 5 – PROJECT 5-4
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS	Average Delay[a]	LOS
23.	Bayshore Boulevard/Jerrold Avenue/US 101 off-ramp	76.8	E	>80	F	76.8	E

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

TABLE V.5-19
CLUSTER 5 – PROJECT 5-4
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS[b]	Average Delay[a]	LOS
23.	Bayshore Boulevard/Jerrold Avenue/US 101 off-ramp	>80	F	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Intersection 23: Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp

- **Option 1**

Existing and Existing plus Project Conditions – AM Analysis

In the AM Peak hour, under Existing conditions, for Option 1, this intersection operates at LOS E with 76.8 seconds of delay. The Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. The northbound lane configuration is modified from three through lanes and one shared through-right turn lane to two through lanes and one shared through-right turn lane. Due to the reduction of capacity in the northbound direction, there would be an increase in delay along this approach. The average intersection delay would increase by 28.4 seconds, compared to Existing conditions. Because the northbound critical movements at Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp either deteriorate or will operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P5-4a) would occur at this intersection with the implementation of Project 5-4 with Option 1.

PM Peak Hour

Four study intersections are included for the PM Peak Hour for Project 5-4. Tables V.5-20, p. V.A.3-438, and V.5-21, p. V.A.3-438, summarize these results.

Existing and Existing plus Project Conditions - PM Analysis

In the PM Peak hour, under Existing conditions, this intersection operates at LOS E with 58.9 seconds of delay. The Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. The northbound lane configuration is modified from three through lanes and one shared through-right turn lane to two through lanes and one shared through-right turn lane. Due to the reduction of capacity in the northbound direction, there would be an increase in delay along this approach. The average intersection delay would increase by 38.5 seconds, compared to Existing conditions. Therefore, Project 5-4 Option 1 would cause a significant traffic impact (Significant Impact TR-P5-4c) to the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection under Existing plus Project conditions. Table V.5-20, p. V.A.3-438, summarizes these results.

TABLE V.5-20
CLUSTER 5 – PROJECT 5-4[c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
23.	Bayshore Boulevard/Jerrold Avenue/US 101 off-ramp	58.9	E	**>80**	**F**	58.9	E
24.	Bayshore Boulevard/Oakdale Avenue	29.6	C	37.8	D	29.6	C
25.	Bayshore Boulevard/Cortland Avenue	21.2	C	22.9	C	21.2	C
26.	Bayshore Boulevard/Alemany Boulevard/Industrial Street[c]	51.2	D	52.3	D	51.7	D

Source: Wilbur Smith Associates, October 2008
Notes:
a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for Bayshore Boulevard/Alemany Boulevard/Industrial Street for combined impacts of Projects 5-2 and 5-4.

TABLE V.5-21
CLUSTER 5 – PROJECT 5-4[c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
23.	Bayshore Boulevard/Jerrold Avenue/US 101 off-ramp	**>80**	**F**	**>80**	**F**	**>80**	**F**
24.	Bayshore Boulevard/Oakdale Avenue	34.6	C	**63.1**	**E**	34.6	C
25.	Bayshore Boulevard/Cortland Avenue	28.3	C	33.2	C	28.3	C
26.	Bayshore Boulevard/Alemany Boulevard/Industrial Street[c]	**>80**	**F**	**>80**	**F**	**>80**	**F**

Source: Wilbur Smith Associates, October 2008
Notes:
a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for Bayshore Boulevard/Alemany Boulevard/Industrial Street for combined impacts of Projects 5-2 and 5-4.

2025 Cumulative and 2025 Cumulative plus Project Conditions – AM Analysis
In the AM Peak hour, under Cumulative conditions, for Option 1 this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Deterioration of the northbound critical movement at Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp for Existing plus Project to LOS F relative to Existing Conditions, is determined to be a significant impact. As a consequence, a corresponding LOS deterioration is expected at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P5-4b) would occur at this intersection with implementation of Project 5-4 Option 1. Table V.5-19, p. V.A.3-436, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions – PM Analysis
In the PM Peak hour, under Cumulative conditions, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Deterioration of the northbound critical movement at Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp for Existing plus Project to LOS F relative to Existing Conditions, is determined a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P5-4d) would occur at this intersection with implementation of Project 5-4 Option 1. Table V.21, p. V.A.3-438, summarizes these results.

- **Option 2**

Existing and Existing plus Project Conditions – AM Analysis
In the AM Peak hour, under Existing conditions, for Option 2, this intersection operates at LOS E with 76.8 seconds of delay. The Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate unsatisfactorily at LOS E, with 76.8 seconds of average delay under Existing plus Project conditions. However, there are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there is no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, Project 5-4 would not cause a significant impact to the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection under Existing plus Project conditions. Table V.5-18, p. V.A.3-436, summarizes these results.

Existing and Existing plus Project Conditions – PM Analysis
In the PM Peak hour, under Existing conditions, for Option 2, this intersection operates at LOS E with 58.9 seconds of delay. The Bayshore Boulevard/Jerrold Avenue/US 101

Off-Ramp intersection would operate satisfactorily at LOS E, with 58.9 seconds of average delay under Existing plus Project conditions. There is no change to the lane configuration at this intersection under Existing plus Project conditions relative to Existing conditions. Hence, there is no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, Project 5-4 would not cause a significant impact to the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp with the implementation of Project 5-4. Table V.5-20, p. V.A.3-438, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions – AM Analysis
In the AM Peak hour, under Cumulative conditions, for Option 2, this intersection would continue operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. No lane configuration changes are proposed for 2025 Cumulative plus Project conditions relative to 2025 Cumulative conditions. Therefore, a significant impact would not occur at this intersection with the implementation for Project 5-4. Table V.5-19, p. V.A.3-436, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions – PM Analysis
In the PM Peak hour, under Cumulative conditions, for Option 2, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. However, there is no change to the lane configuration at this intersection under 2025 Cumulative plus Project conditions relative to 2025 Cumulative conditions. Hence, there is no change in LOS or delay for this intersection, compared to 2025 Cumulative conditions. Therefore, Project 5-4 would not cause a significant impact to the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp with the implementation of Project 5-4. Table V.5-21, p. V.A.3-438, summarizes these results.

Intersection 24: Bayshore Boulevard/Oakdale Avenue

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 29.6 seconds of delay. The Bayshore Boulevard/Oakdale Avenue intersection would operate satisfactorily at LOS D, with 37.8 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from two through lanes and one shared through-right turn lane to one through lane and one shared through-right turn lane. The southbound lane configuration would be modified from two through lanes and two exclusive left-turn lanes to two through lanes and one exclusive left-turn lane. Due to the reduction of capacity in the northbound and southbound directions, there would be an increase in delay along these approaches. However, the average intersection delay would increase by 8.2 seconds, compared to Existing conditions. Therefore, Project 5-4 Option 1 would not cause a significant traffic impact to the Bayshore Boulevard/Oakdale Avenue intersection under Existing plus

Project conditions. Table V.5-20, p. V.A.3-438, summarizes the Existing and Existing plus Project PM Peak Hour results.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Bayshore Boulevard/Oakdale Avenue intersection would operate satisfactorily at LOS C in the PM Peak Hour, with 34.6 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS E, with 63.1 seconds of delay. Because the northbound and southbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions; a significant impact (Significant Impact TR-P5-4e) would occur at this intersection with the implementation of Project 5-4 Option 1. Table V.5-21, p. V.A.3-438, summarizes the Cumulative and Cumulative plus Project PM Peak Hour results.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 29.6 seconds of delay. The Bayshore Boulevard/Oakdale Avenue intersection would continue to operate satisfactorily at LOS C, with 29.6 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, Project 5-4 would not cause a significant impact to the Bayshore Boulevard/Oakdale Avenue with the implementation of Project 5-4 Option 2. Tables V.5-18 and V.5-20 on p. V.A.3-436 and p. V.A.3-438, respectively, summarize all Existing and Existing plus Project results at this intersection.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Bayshore Boulevard/Oakdale Avenue intersection would operate satisfactorily at LOS C in the PM Peak Hour, with 34.6 seconds of delay under 2025 Cumulative plus Project conditions. No lane configuration changes are proposed under 2025 Cumulative plus Project conditions relative to 2025 Cumulative conditions. Therefore, a significant impact would not occur at this intersection with the implementation of Project 5-4 Option 2. Tables V.5-19 and V.5-21 on p. V.A.3-436 and p. V.A.3-438, respectively, summarize all Cumulative and Cumulative plus Project results at this intersection.

Intersection 25: Bayshore Boulevard/Cortland Avenue

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 21.2 seconds of delay. The Bayshore Boulevard/Cortland Avenue intersection would operate satisfactorily at LOS C, with 22.9 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from three through lanes and one exclusive left-turn lane to two through lanes and one exclusive left-turn lane. The southbound lane configuration would be modified from two through lanes and one shared through-right turn lane to one through lane and one shared through-right turn lane. Due to the reduction of capacity in the northbound and southbound directions, there would be an increase in delay along these approaches. The average intersection delay would increase by 1.7 seconds, compared to Existing conditions. However, Project 5-4 Option 1 would not cause a significant traffic impact to the Bayshore Boulevard/Cortland Avenue intersection under Existing plus Project conditions. Table V.5-20, p. V.A.3-438, summarizes the Existing and Existing plus Project results at the PM Peak Hour at the intersection of Bayshore Avenue/Cortland Avenue.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Bayshore Boulevard/Cortland Avenue intersection would operate satisfactorily at LOS C in the PM Peak Hour, with 28.3 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate satisfactorily at LOS C, with 33.2 seconds of delay. Therefore, a significant impact would not occur at this intersection with the implementation of Project 5-4 Option 1. Table V.5-21, p. V.A.3-438, summarizes the Cumulative and Cumulative plus Project results at the PM Peak Hour at the intersection of Bayshore Avenue/Cortland Avenue.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 21.2 seconds of delay. The Bayshore Boulevard/Cortland Avenue intersection would continue to operate satisfactorily at LOS C, with 21.2 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, Project 5-4 Option 2 would not cause a significant impact to the Bayshore Boulevard/Cortland Avenue intersection. Table V.5-20, p. V.A.3-438, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Bayshore Boulevard/Cortland Avenue intersection would operate satisfactorily at LOS C in the PM Peak Hour, with 28.3 seconds of delay under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at this intersection with the implementation of Project 5-4 Option 2. Table V.5-21, p. V.A.3-438, summarizes these results.

Intersection 26: Bayshore Boulevard/Alemany Boulevard/Industrial Street

The Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection is common to Projects 5-2 and 5-4 within the Cluster 5 area. Only one design option is proposed for Project 5-2. For Project 5-4, two design options are proposed. For Project 5-2, no lane configuration changes are proposed relative to Existing conditions. For Project 5-4, Option 1 would reduce one through lane in the northbound direction. Option 2 for Project 5-4 would result in the replacement of a shared through-right lane in the northbound direction with an exclusive right-turn lane. Since the impacts of both Projects 5-2 and 5-4 would not result in a significant traffic impact for the PM peak hour, there would be no significant traffic impact from individual Project 5-4 for either Existing plus Project or 2025 Cumulative plus Project conditions.

- **Option 1**

Existing and Existing plus Project Conditions for Projects 5-2 and 5-4 combined
Please see the analysis of impacts for the combined projects under Project 5-2 on p. V.A.3-422.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-2 and 5-4 combined
Please see the analysis of impacts for the combined projects under Project 5-2 on p. V.A.3-422.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 5-2 and 5-4 combined
Please see the analysis of impacts for the combined projects under Project 5-2 on p. V.A.3-422.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-2 and 5-4 combined
Please see the analysis of impacts for the combined projects under Project 5-2 on p. V.A.3-423.

Significant Impact TR-P5-4a:

Under Existing conditions, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-ramp intersection would operate at LOS E with 76.8 seconds of delay. However, under Existing plus Project conditions for Option 1, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the northbound direction on Bayshore Boulevard. Because the northbound critical movement deteriorates for Option 1 from LOS D under 2025 Cumulative conditions to LOS F with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at this intersection with the implementation of Project 5-4.

Significant Impact TR-P5-4b:

The intersection of Bayshore Boulevard/Oakdale Avenue would operate at LOS E under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-ramp intersection would operate at LOS D with 42.9 seconds of delay. However, under 2025 Cumulative plus Project conditions for Option 1, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the northbound direction. Because the northbound critical movement deteriorates for Option 1 from LOS D under 2025 Cumulative conditions to LOS F with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at this intersection with the implementation of Project 5-4.

Significant Impact TR-P5-4c:

Under Existing conditions, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-ramp intersection would operate at LOS E with 58.9 seconds of delay. However, under Existing plus Project conditions for Option 1, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the northbound direction. Because the northbound critical movement deteriorates for Option 1 from LOS D under 2025 Cumulative conditions to LOS F with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at this intersection with the implementation of Project 5-4.

Significant Impact TR-P5-4d:

Under 2025 Cumulative conditions, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-ramp intersection would operate at LOS F with more than 80 seconds of delay. Under 2025

Cumulative plus Project conditions for Option 1, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the northbound direction on Bayshore Boulevard. Because the northbound critical movement deteriorates for Option 1 with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at this intersection with the implementation of Project 5-4.

Significant Impact TR-P5-4e:

A significant loading impact would occur as a result of Project 5-4.

Under 2025 Cumulative conditions, this intersection would operate at LOS C with a delay of 34.6 seconds. However, under 2025 Cumulative plus Project conditions for Option 1, the Bayshore Boulevard/Oakdale Avenue intersection would operate at LOS E with a delay of 63.1 seconds as a result of the lane configuration changes along the northbound and southbound approaches of Bayshore Boulevard. Because the northbound and southbound critical movements deteriorate for Option 1 from LOS D under 2025 Cumulative conditions to LOS F with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-4.

Significant Impact TR-P5-4f (Projects 5-2 and 5-4 combined):

Muni bus lines 9, 9X, 9AX and SamTrans 292 would experience significant delays under 2025 Cumulative plus Project conditions for Projects 5-2 and 5-4 combined Option 1.

Significant Impact TR-P5-4g:

Muni bus lines 9, 9X, 9AX and SamTrans 292 would experience significant delays under 2025 Cumulative plus Project conditions for Project 5-4 only with Option 1.

TRANSIT

Muni bus lines 9, 9X, 9AX, 90 owl and SamTrans bus line 292 run along Bayshore Boulevard between Cesar Chavez Street and Silver Avenue. Southbound Muni bus lines 9X and 9AX run on US 101. In addition, Muni bus line 23 operates on Bayshore Boulevard between Oakdale Avenue and Industrial Street with Muni bus line 24 on Bayshore Boulevard between Courtland Avenue and Industrial Street. This section of Bayshore Boulevard carries approximately 20 southbound buses and 25 northbound buses during the AM and PM peak periods. Bus stops are located at Jerrold Avenue, Oakdale Avenue, Courtland Avenue, Marengo Street, Alemany Boulevard/Industrial Street, Boutwell Street/Augusta Street, and Silver Avenue.

Bicycle volumes along this section of Bayshore Boulevard are generally low; no conflicts were observed[10] between buses and bicyclists at the bus stops along this section of Bayshore Boulevard with the exception of the northbound bus stop at the Bayshore Boulevard/Silver Avenue intersection. This bus stop is located on the north side of the intersection; bus bunching at the stop was observed causing buses to queue into the intersection and requiring bicyclists to use the general traffic lane.

Project 5-4 shares a common intersection (Intersection 26: Bayshore Boulevard/Alemany Boulevard/Industrial Street) with Project 5-2: Alemany Boulevard Bicycle Lanes, Bayshore Boulevard to Rousseau Street. The transit delay analysis below (Projects 5-2 and 5-4 combined) reflects the combined impact of Projects 5-2 and 5-4 modifications to the Alemany Boulevard Bicycle Lanes, Bayshore Boulevard to Rousseau Street intersection on transit delay. The impacts resulting from the implementation of individual Project 5-4 (Project 5-4) without Project 5-2 modifications to the Alemany Boulevard Bicycle Lanes, Bayshore Boulevard to Rousseau Street intersection will follow.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 5-2 and 5-4 combined
  Please see Project 5-2 discussion on p. V.A.3-421

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-2 and 5-4 combined
  Please see Project 5-2 discussion on p. V.A.3-421

- **Option 2**

  Existing and Existing plus Project Conditions for Projects 5-2 and 5-4 combined
  Please see Project 5-2 discussion on p. V.A.3-421

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-2 and 5-4 combined
  Please see Project 5-2 discussion on p. V.A.3-421

  Existing and Existing plus Project Conditions for Project 5-4 alone
  Under Existing conditions, for Project 5-4 by itself, no lane configuration changes that would affect transit service are proposed relative to Existing conditions for the shared Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection by individual Project 5-2 with either Option 1 or Option 2. Consequently, the transit impacts resulting from individual Project 5-4 would be the same as for Projects 5-2 and 5-4 combined.

[10] Field surveys were conducted by CHS Consulting on Tuesday, October 30, 2007 during the PM peak.

Therefore, a significant transit impact would not occur with the implementation of individual Project 5-4 with either Option 1 or Option 2 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 5-4 alone
Under Cumulative conditions, for Project 5-4 by itself, no lane configuration changes that would affect transit service are proposed relative to Cumulative conditions for the shared Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection by individual Project 5-2 with either Option 1 or Option 2. Consequently, the transit impacts resulting from individual Project 5-4 would be the same as for Projects 5-2 and 5-4 combined. Therefore, a significant transit impact would occur for Muni bus lines 9, 9X, 9AX and SamTrans 292 with the implementation of individual Project 5-4 with Option 1 under 2025 Cumulative plus Project conditions. No significant transit impact would occur with Option 2.

PARKING

- **Option 1**
  Option 1 would remove approximately 85 on-street parking spaces (15 from east side and 70 from west side) on Bayshore Boulevard between Industrial Street and Silver Avenue. Adjacent parcels on this segment of Bayshore Boulevard are not available for development; US 101 borders the west side and a steep sloped hill borders the east side. There is little use of these on-street parking spaces on this segment of Bayshore Boulevard with no more than five cars observed to be parked in this location. Since there is no parking demand along this segment of Bayshore Boulevard, the loss of 85 on-street parking spaces with implementation of Project 5-4 Option 1 would not result in a significant parking impact.

- **Option 2**
  Option 2 would remove approximately 220 on-street parking spaces on Bayshore Boulevard from both sides of the street between Cesar Chavez and Industrial Streets. This removal would increase the parking occupancy rate on this segment of Bayshore Boulevard which already has a high parking demand. In addition, 110 on-street parking spaces (40 on east side and 70 on west side) would be removed on Bayshore Boulevard between Industrial Street and Silver Avenue. As discussed above for Option 1, this segment of Bayshore Boulevard has little parking demand.

  San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

In San Francisco, parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social effects need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact. (CEQA Guidelines Section 15131(a).) The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor. Therefore, there would be no significant parking impacts with implementation of Project 5-4 Option 2.

PEDESTRIAN

Pedestrian volumes are generally very low, and there would be no changes in sidewalk width or crosswalk layout. The current interactions between pedestrians and bicyclists would not change under either Option 1 or Option 2. Therefore, there would be no significant impacts with Project 5-4 for either Option 1 or Option 2.

BICYCLE

Under Options 1 and 2 the installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. The installation of sharrows would increase the motor vehicle drivers' awareness that bicyclists share the road and identify for bicyclists the safe

pathway outside the "door zone".[11] However, with the loss of parking under Option 2, double-parking may occur for freight loading activities most likely within the bicycle lane. In these situations, bicyclists would use the general travel lane which does not significantly differ from Existing conditions Therefore, Project 5-4 with either Option 1 or Option 2 would not result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

- **Option 1**
  Parking removal with Option 1 would eliminate available on-street parking spaces for loading activities. However, the area proposed for parking removal has no adjacent land uses and no loading activities. Therefore, there would be no significant loading impacts with Project 5-4 Option 1.

- **Option 2**
  Parking removal with Option 2 on the segment of Bayshore Boulevard between Cesar Chavez and Industrial Streets has a substantial amount of industrial and commercial uses; on-street parking removal would eliminate available on-street parking spaces for loading activities. Due to the high demand for freight loading to the stores and customer pick-ups in this area, the parking removal by Option 2 would result in double parking in the travel lanes or bicycle lanes for loading activities. The City of San Francisco Transportation Code Section 38N allows vehicles to temporarily block a bicycle lane during weekday midday, but not during the AM (7:00 a.m. to 9:00 a.m.) and PM (4:00 p. m. to 6:00 p. m.) peak periods. Thus, no deliveries can be made during these periods because there are no other options available to receive deliveries. Because truck loading demand is high along this corridor, a significant loading impact (Significant Impacts TR-P5-4h and TR-P5-4i) would result with implementation of Project 5-4 Option 2 under Existing plus Project and 2025 Cumulative plus Project conditions.

Significant Impact TR-P5-4h:

A significant loading impact would occur as a result of Project 5-4 Option 2 under Existing plus Project conditions.

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[11] In February 2004, Alta Planning + Design completed a study, *San Francisco's Shared Lane Pavement Markings: Improving Bicycle Safety,* on shared lane markings for Class III bikeways in San Francisco. In this study, a key conclusion was that the pavement markings (also known as sharrow markings) increased the awareness of the bicyclists' and motorists' position on the road. Bicyclists tended to ride further from parked cars, and motorists tended to pass bicyclists at a greater distance from the pavement marking. The report's recommendation was to use the sharrow markings on appropriate shared lanes but not as a substitution for bicycle lanes where feasible.

Significant Impact TR-P5-4i:

A significant loading impact would occur as a result of Project 5-4 Option 2 under 2025 Cumulative plus Project conditions.

PROJECT 5-5: CESAR CHAVEZ STREET BICYCLE LANES, I-280 TO US 101 FREEWAYS

There are two options for this segment of Cesar Chavez.

- **Option 1**
  Option 1 would add a Class II bicycle lane in each direction and remove either an eastbound or westbound travel lane.

- **Option 2**
  Option 2 would add both an eastbound Class II bicycle lane and a westbound Class II bicycle lane, and remove all on-street parking on the north side of Cesar Chavez between the US 101 and the I-280.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour.

PM Peak Hour

Two study intersections are included for the PM Peak Hour for Project 5-5.

Intersection 31: Evans Street/Cesar Chavez Street

- **Option 1**

  Existing and Existing plus Project Conditions
  Under Existing conditions, this intersection operates at LOS D with 47.4 seconds of delay. The Evans Avenue/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration would be modified from two through lanes and one exclusive right-turn lane to one through lane and one exclusive right-turn lane. Due to the reduction of capacity in the eastbound direction, there would be an increase in delay. Because the eastbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P5-5a) would occur at this intersection with the implementation of Project 5-5 Option 1. Table V.5-22, p. V.A.3-451, summarizes these results.

TABLE V.5-22
CLUSTER 5 – PROJECT 5-5
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS[b]	Average Delay[a]	LOS
31.	Evans Avenue/Cesar Chavez Street	47.4	D	>80	**F**	47.4	D
32.	Pennsylvania Avenue/Cesar Chavez Street/I-280 off-ramp	31.9	C	33.6	C	31.9	C

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Evans Avenue/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Deterioration of the eastbound critical movement at Evans Avenue/Cesar Chavez Street for Existing plus Project to LOS F relative to Existing Conditions, is determined a significant impact. As a consequence, a corresponding LOS deterioration is expected at this intersection for 2025 Cumulative plus Project, when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P5-5b) would occur at this intersection with implementation of Project 5-5 Option 1. Table V.5-23, p. V.A.3-453, summarizes these results.

- **Option 2**

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS D with 47.4 seconds of delay. The Evans Avenue/Cesar Chavez Street intersection would operate satisfactorily at LOS D, with 47.4 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, Project 5-5 would not cause a significant impact to the Evans Avenue/Cesar Chavez Street intersection with the implementation for Project 5-5 Option 2 under Existing plus Project conditions. Table V.5-22, p. V.A.3-451, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Evans Avenue/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. The Evans Avenue/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at this intersection with the implementation of Project 5-5 Option 2. Table V.5-23, p. V.A.3-453, summarizes these results.

Intersection 32: Pennsylvania Avenue/Cesar Chavez Street/I-280 Off-Ramp

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 31.9 seconds of delay. The Pennsylvania Avenue/Cesar Chavez Street/I-280 Off-Ramp intersection would operate satisfactorily at LOS C, with 33.6 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration would be modified from two through lanes and one exclusive left-turn lane to one through lane and one exclusive left-turn lane. Due to the reduction of capacity in the eastbound direction, there would be an increase in delay along this approach. The average intersection delay would increase by 1.6 seconds, compared to Existing conditions. Therefore, Project 5-5 Option 1 would not cause a significant traffic impact to the Pennsylvania Avenue/Cesar Chavez Street/I-280 Off-Ramp intersection under Existing plus Project conditions. Table V.5-22, p. V.A.3-451, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Pennsylvania Avenue/Cesar Chavez Street/I-280 Off-Ramp intersection would operate unsatisfactorily at LOS E in the PM Peak Hour, with 73.3 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS E, with 69.7 seconds of delay. Since the intersection delay decreases by 3.6 seconds and the eastbound critical movements improve under 2025 Cumulative plus Project conditions, a significant impact would not occur at this intersection with the implementation of Project 5-5 Option 1. Table V.5-23, p. V.A.3-453, summarizes these results.

- **Option 2**

Existing and Existing plus Project Conditions
The Pennsylvania Avenue/Cesar Chavez Street/I-280 Off-Ramp intersection would operate satisfactorily at LOS C, with 31.9 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under

Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, Project 5-5 would not cause a significant impact to the Pennsylvania Avenue/Cesar Chavez Street/I-280 Off-Ramp intersection with the implementation for Project 5-5 Option 2 under Existing plus Project conditions. Table V.5-22, p. V.A.3-451, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Pennsylvania Avenue/Cesar Chavez Street/I-280 Off-Ramp intersection would operate unsatisfactorily at LOS E in the PM Peak Hour, with more than 73.3 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at this intersection with the implementation of Project 5-5 Option 2. Table V.5-23, p. V.A.3-453, summarizes these results.

TABLE V.5-23
CLUSTER 5 – PROJECT 5-5
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
31.	Evans Avenue/Cesar Chavez Street	>80	F	>80	F	>80	F
32.	Pennsylvania Avenue/Cesar Chavez Street/I-280 off-ramp	**73.3**	**E**	**69.7**	**E**	**73.3**	**E**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Significant Impact TR-P5-5a:

The intersection of Evans Street/Cesar Chavez Street would operate at LOS F under Existing plus Project conditions for Option 1.

Under Existing conditions, the Evans Avenue/Cesar Chavez Street intersection would operate at LOS D with 47.4 seconds of delay. However, under Existing plus Project conditions for Option 1, the Evans Avenue/Cesar Chavez Street intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound direction on Cesar Chavez Street. Because the eastbound critical movement deteriorates for Option 1 from

LOS D under Existing conditions to LOS F with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at this intersection with the implementation of Project 5-5.

Significant Impact TR-P5-5b:

The intersection of Evans Street/Cesar Chavez Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Evans Avenue/Chavez Street intersection would operate at LOS F with a V/C ratio of 1.37. However, under 2025 Cumulative plus Project conditions for Option 1, the Evans Avenue/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.83 as a result of the lane configuration changes in the eastbound direction on Cesar Chavez Street. Because the eastbound critical movement deteriorates for Option 1 with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at this intersection with the implementation of Project 5-5.

TRANSIT

Muni bus line 19 runs in both directions on Cesar Chavez Street on the segment of Project 5-5 between Evans Avenue and Connecticut Street (approximately one block) with approximately six buses per hour each way during the AM and PM peak periods; transit volumes are relatively low. Bicycle volumes are also very low so current potential conflicts between buses and bicyclists are minimal.

- **Option 1**

  Existing and Existing plus Project Conditions
  For Existing conditions, Option 1 would add approximately four seconds of delay to Muni bus line 19 in the westbound direction with no change in delay in the eastbound direction. The headway for Muni bus line 19 in the PM peak period is 10 minutes; the total added delay of four seconds would be less than the transit delay threshold of 6 minutes. Therefore, there would not be a significant transit impact with implementation of Project 5-5 Option 1 under Existing plus Project conditions.

  2025 Cumulative and 2025 Cumulative plus Project Conditions
  For Cumulative conditions, Option 1 would add approximately 22 seconds of delay to Muni bus line 19 in the westbound direction with no change in delay in the eastbound direction. The headway for Muni bus line 19 in the PM peak period is 10 minutes; the total added delay of 22 seconds would be less than the transit delay threshold of 6

minutes. Therefore there would be no significant transit impact with implementation of Project 5-5 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
For Existing conditions, Option 2 would not change the travel time to Muni bus line 19 in either the westbound or eastbound direction. Therefore, there would be no significant transit impact with implementation of Project 5-5 Option 2 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions
For Cumulative conditions, Option 2 would add approximately 207 seconds (3.4 minutes) of delay to Muni bus line 19 in the westbound direction with no change in delay in the eastbound direction. The headway for Muni bus line 19 in the PM peak period is 10 minutes; the total added delay of 207 seconds (3.4 minutes) would be less than the transit delay threshold of 6 minutes. Therefore there would be no significant transit impact with implementation of Project 5-5 Option 2 under 2025 Cumulative plus Project conditions.

PARKING

- **Option 1**
Option 1 would not include parking removal. Therefore, there would be no parking impacts with Project 5-5 Option 1.

- **Option 2**
Option 2 would remove approximately 94 on-street parking spaces on the north side of Cesar Chavez Street between the US 101 and the I-280 freeways. Most of the buildings along Cesar Chavez Street have industrial uses and are located on the north side of the street. Parking occupancy in this segment of Cesar Chavez Street is approximately 70 percent on the south side and 62 percent on the north side. With the removal of 94 parking spaces, there would be a parking deficit for this segment of Cesar Chavez Street. Option 2 would force existing users to park on the south side of Cesar Chavez Street or seek parking farther away if convenient parking is unavailable.

In San Francisco, parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact under CEQA, but rather a social effect. The loss of parking may cause potential indirect physical effects, which would include cars circling and looking for a parking space in neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to some drivers, aware of constrained parking conditions in a given area, shifting travel modes. Hence, any secondary environmental impacts that may result from a shortfall in parking would be minor. Therefore, any net

reduction in on-street parking supply would not result in significant parking impacts. Thus, there would be no significant parking impacts with implementation of Project 5-5 Option 2.

PEDESTRIAN

Pedestrian volumes are generally very low, and there would be no changes in sidewalk width or crosswalk layout. The current interactions between pedestrians and bicyclists would not change as a result of either option. Therefore, there would be no pedestrian impacts as a result of Project 5-5 with either Option 1 or Option 2.

BICYCLE

The proposed Class II bicycle lanes under both Options 1 and 2 would provide a clear right-of-way for bicyclists. Under Option 2, bicyclists traveling in the proposed westbound bicycle lane would benefit from the removal of on-street parking on the north side because the potential for 'dooring' from an adjacent parked car would be eliminated. Therefore, there would be no significant bicycle impacts as a result of Project 5-5 with either Option 1 or Option 2, but could have the beneficial effect of improving roadway conditions and safety for cyclists.

LOADING

Option 1 would not include removal of on-street yellow freight commercial loading spaces or affect access to off-street loading facilities. Therefore, there would be no loading impacts with Project 5-5 Option 1.

Almost all of the industrial uses along this segment of Cesar Chavez have off-street loading spaces and loading activities are accommodated on-site. Therefore, the removal of on-street parking spaces on the north side of Cesar Chavez under Option 2 in this segment would not affect loading activity. There were no double-parked trucks observed[12] on this segment of Cesar Chavez. Therefore, there would be no significant loading impacts as a result of Project 5-5 Option 2.

PROJECT 5-6: CESAR CHAVEZ STREET/26TH STREET BICYCLE LANES, SANCHEZ STREET TO US 101

The Cesar Chavez Street section of Project 5-6 would involve the installation of Class II and Class III bicycle facilities in both directions between Hampshire Street (near US 101 Freeway) and Sanchez Street as well as the addition of street trees along this same segment.

[12] Field surveys were conducted by CHS Consulting on Tuesday, October 30, 2007 during the midday.

The Cesar Chavez Street section of Project 5-6 would be divided into three segments.

Segment I of the Cesar Chavez Street section of Project 5-6 would extend between Hampshire Street and Valencia Street and includes two design options:

Segment I Option 1 would remove one travel lane in each direction, maintain or widen the existing median, and install Class II bicycle lanes in both directions. This option would remove up to 40-45 spaces, typically at corners where bulbouts may be constructed to widen the sidewalk.

Segment I Option 2 would remove one travel lane in each direction, remove the existing median, and install Class II bicycle lanes in both directions and a center two-way left-turn lane. This option would not involve parking removal.

Segment II of the Cesar Chavez Street section of Project 5-6 would extend between Valencia Street and Guerrero Street and includes two design options:

Segment II Option 1 would remove one through travel lane in each direction, remove, relocate or widen the existing median, and install Class II bicycle lanes in both directions. This option would remove 5-8 parking spaces, typically at corners where bulbouts may be constructed to widen the sidewalk.

Segment II Option 2 would remove one through travel lane in the eastbound direction and a left turn lane in the westbound direction, maintain or widen the existing median, and install Class II bicycle lanes in both directions. This option would also install a Class II bicycle left turn lane in the eastbound intersection approach to Valencia Street. This option would not involve parking removal.

Segment III of the Cesar Chavez Street section of Project 5-6 would extend from Guerrero Street to Sanchez Street, and has two design options.

Segment III Option 1 would install sharrows in both directions to the existing Class III bicycle route along Segment III. This option would not change the lane configuration and would not involve travel lane or parking removal.

Segment III Option 2 would install sharrows in both directions to the existing Class III bicycle route along Segment III. This option would change the lane configuration in the eastbound intersection approach to Guerrero Street to a left turn lane and a through-right turn lane. This option would not involve travel lane or parking removal.

The 26th Street section of Project 5-6 would establish a new Class III bicycle route with sharrows in both directions on 26th Street between Hampshire Street and Sanchez Street. Project 5-6 would result in the loss of approximately four parking spaces per block (approximately 76 total spaces), typically at the corners, where bulb-outs and chokers would be installed to calm traffic. This option would not involve travel lane removal.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

AM Peak Hour

One study intersection is included for the AM Peak Hour for Project 5-6.

Intersection 28: Mission Street/Cesar Chavez Street

- **Option 1**

  Existing and Existing plus Project Conditions – AM Analysis
  In the AM Peak hour, under Existing conditions, this intersection operates at LOS C with 27.7 seconds of delay. The Mission Street/Cesar Chavez Street intersection would operate satisfactorily at LOS C, with 28.6 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration would be modified from two through lanes and one shared through-right turn lane to one through lane and one shared through-right turn lane. The westbound lane configuration would be modified from two through lanes, one exclusive left-turn lane, and one shared through-right turn lane to one through lane and one shared through-right turn lane. However, the average intersection delay would increase by 0.9 seconds, compared to Existing conditions. Therefore, Project 5-6 Option 1 would not cause a significant traffic impact to the Mission Street/Cesar Chavez Street intersection under Existing plus Project conditions. Peak H See Table V.5-24, p. V.A.3-458, for a summary of these results.

TABLE V.5-24
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS	Average Delay[a]	LOS
28.	Mission Street/Cesar Chavez Street	27.7	C	28.6	C	33.0	C

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

Existing and Existing plus Project Conditions – PM Analysis

Under Existing conditions, this intersection operates at LOS D with 37.5 seconds of delay. The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. The westbound lane configuration is modified from two through lanes, one exclusive left-turn lane, and one shared through-right turn lane to one through lane, and one shared through-right turn lane. Due to the reduction of capacity in the westbound direction, there would be an increase in delay. Because the southbound and westbound critical movements either deteriorate or will operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P5-6g) would occur at this intersection with implementation of Project 5-6 Option 1. See Table V.5-26, p. V.A.3-460, for a summary of these results.

TABLE V.5-25
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project Option 1		2025 Cumulative plus Project Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
28.	Mission Street/Cesar Chavez Street	60.6	E	>80	F	73.5	E

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

2025 Cumulative and 2025 Cumulative plus Project Conditions – AM Analysis

The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS E in the AM Peak Hour, with 60.6 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions. Because the southbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P5-6a) would occur at this intersection with implementation of Project 5-6 Option 1. See Table V.5-25, p. V.A.3-459, for a summary of these results.

TABLE V.5-26
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
27.	Guerrero Street/Cesar Chavez Street	52.5	D	>80	**F**	>80	**F**
28.	Mission Street/Cesar Chavez Street	37.5	D	>80	**F**	**55.7**	**E**
29.	South Van Ness Avenue/Cesar Chavez Street	32.4	C	>80	**F**	>80	**F**
30.	Bryant Street/Cesar Chavez Street	51.4	D	>80	**F**	**66.4**	**E**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

2025 Cumulative and 2025 Cumulative plus Project Conditions – PM Analysis

The Mission Street/Cesar Chavez Street intersection would operate satisfactorily at LOS E, with 64.9 seconds of average delay under 2025 Cumulative conditions. The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Deterioration of the southbound and westbound critical movement at Mission Street/Cesar Chavez Street for Existing plus Project to LOS F relative to Existing Conditions, is determined a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P5-6i) would occur at this intersection with implementation of Project 5-6 Option 1. See Table V.5-27, p. V.A.3-461, for a summary of these results.

TABLE V.5-27
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
27.	Guerrero Street/Cesar Chavez Street	>80	F	>80	F	>80	F
28.	Mission Street/Cesar Chavez Street	64.9	E	>80	F	>80	F
29.	South Van Ness Avenue/Cesar Chavez Street	>80	F	>80	F	>80	F
30.	Bryant Street/Cesar Chavez Street	>80	F	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:
a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

- **Option 2**

Existing and Existing plus Project Conditions – AM Analysis
In the AM Peak hour, under Existing conditions, this intersection operates at LOS C with 27.7 seconds of delay. The Mission Street/Cesar Chavez Street intersection would operate satisfactorily at LOS C, with 33 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration would be modified from two through lanes and one shared through-right turn lane to one through lane and one shared through-right turn lane. The westbound lane configuration would be modified from two through lanes, one exclusive left-turn lane, and one shared through-right turn lane to one through lane, one exclusive left-turn lane, and one shared through-right turn lane. Due to the reduction of capacity in the eastbound and westbound directions, there would be an increase in delay along these approaches. However, the average intersection delay would increase by 5.3 seconds, compared to Existing conditions. Therefore, Project 5-6 Option 2 would not cause a significant traffic impact to the Mission Street/Cesar Chavez Street intersection under Existing plus Project conditions. See Table V.5-24, p. V.A.3-458, for a summary of these results.

Existing and Existing plus Project Conditions – PM Analysis
Under Existing conditions, this intersection operates at LOS D with 37.5 seconds of delay. The Mission Street/Cesar Chavez Street intersection would operate satisfactorily at LOS E, with 55.7 seconds of average delay under Existing plus Project conditions. The westbound lane configuration is modified from two through lanes, one exclusive left-

turn lane, and one shared through-right turn lane to one through lane, one exclusive left-turn lane, and one shared through-right turn lane. Due to the reduction of capacity in the westbound direction there would be an increase in delay. Because the westbound critical movements either deteriorate or will operate at an unacceptable LOS E, with more than 55 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P5-6h) would occur at this intersection with implementation of Project 5-6 Option 2. See Table V.5-26, p. V.A.3-460, for a summary of these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions – AM Analysis
The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS E in the AM Peak Hour, with 60.6 seconds of average delay under 2025 Cumulative conditions. The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS E, with 73.5 seconds of delay under 2025 Cumulative plus Project conditions. Because the westbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P5-6b) would occur at this intersection with implementation of Project 5-6 Option 2. See Table V.5-25, p. V.A.3-459, for a summary of these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions – PM Analysis
The Mission Street/Cesar Chavez Street intersection would operate satisfactorily at LOS E, with 64.9 seconds of average delay under 2025 Cumulative conditions. The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Deterioration of the southbound and westbound critical movements at Mission Street/Cesar Chavez Street for Existing plus Project to LOS F relative to Existing Conditions, is determined a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P5-6j) would occur at this intersection with implementation of Project 5-6 Option 2. See Table V.5-27, p. V.A.3-461, for a summary of these results.

Intersection 27: Guerrero Street/Cesar Chavez Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS D with 52.5 seconds of delay. The Guerrero Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. The westbound lane configuration would be modified from one through lane, two exclusive left-turn lanes, and one shared through-right turn lane to one shared through-right turn lane, and two exclusive left-turn lanes. Due to the

reduction of capacity in the westbound direction there would be an increase in delay along these approaches. Because the southbound and westbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P5-6c) would occur at this intersection with implementation of Project 5-6 Option 1. See Table V.5-26, p. V.A.3-460, for a summary of Weekday PM Peak Hour results for Existing and Existing plus Project scenarios at the intersection of Guerrero Street/Cesar Chavez Street.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Guerrero Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F in the PM Peak Hour, with more than 80 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Deterioration of the southbound and westbound critical movement at Guerrero Street/Cesar Chavez Street to LOS F, when comparing Existing plus Project to Existing Conditions, is deemed a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P5-6e) would occur at this intersection with implementation of Project 5-6 Option 1. See Table V.5-27, p. V.A.3-461, for a summary of Weekday PM Peak Hour results for Cumulative and Cumulative plus Project scenarios at the intersection of Guerrero Street/Cesar Chavez Street.

- **Option 2**

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS D with 52.5 seconds of delay. The Guerrero Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration would be modified from one shared through-left turn lane and one shared through-right turn lane to one exclusive left-turn lane and one shared through-right turn lane. The westbound lane configuration would be modified from one through lane, two exclusive left-turn lanes, and one shared through-right turn lane to one exclusive left-turn lane, one through lane, and one shared through-right turn lane. Due to the reduction of capacity in the eastbound and westbound directions, there would be an increase in delay. Because the southbound, eastbound and westbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P5-6d) would occur at this intersection with implementation of Project 5-6 Option 2. Table V.5-26, p. V.A.3-460, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Guerrero Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F in the PM Peak Hour, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Deterioration of the southbound, eastbound, and westbound critical movement at Guerrero Street/Cesar Chavez Street for Existing plus Project to LOS F relative to Existing Conditions, is determined a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P5-6f) would occur at this intersection with implementation of Project 5-6 Option 2.Table V.5-27, p. V.A.3-461, summarizes these results.

Intersection 29: South Van Ness/Cesar Chavez Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 32.4 seconds of delay. The South Van Ness/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. The westbound lane configuration would be modified from two through lanes and one shared through-right turn lane to one through lane and one shared through-right turn lane. The eastbound lane configuration would be modified from two through lanes, one shared through-left-turn lane to one through lane, and one shared through-left-turn lane. Due to the reduction of capacity in the eastbound direction, and westbound direction there would be an increase in delay. Because the eastbound and westbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P5-6k) would occur at this intersection with implementation of Project 5-6 Option 1. See Table V.5-26, p. V.A.3-460, for a summary of Weekday PM Peak Hour results for Existing and Existing plus Project scenarios at the intersection of South Van Ness/Cesar Chavez Street.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The South Van Ness/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F in the PM Peak Hour, with more than 80 seconds of average delay under 2025 Cumulative conditions. The South Van Ness/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Deterioration of the eastbound and westbound critical movement at South Van Ness/Cesar Chavez Street to LOS F when comparing Existing plus Project to Existing Conditions is deemed a significant impact. As a consequence a corresponding LOS deterioration is expected at this intersection for 2025

Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P5-6m) would occur at this intersection with implementation of Project 5-6 Option 1. See Table V.5-27, p. V.A.3-461, for a summary of Weekday PM Peak Hour results for Cumulative and Cumulative plus Project scenarios at the intersection of South Van Ness/Cesar Chavez Street.

- **Option 2**

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS C with 32.4 seconds of delay. The South Van Ness/Cesar Chavez Street intersection would operate unsatisfactorily at LOS E, with 78.5 seconds of average delay under Existing plus Project conditions. The westbound lane configuration would be modified from two through lanes and one shared through-right turn lane to one through lane and one shared through-right turn lane. The eastbound lane configuration would be modified from two through lanes and one shared through-left turn lane to two through lanes and one exclusive left-turn lane. Due to the reduction of capacity in the eastbound direction, and westbound direction there would be an increase in delay. Because the eastbound and westbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P5-6l) would occur at this intersection with implementation of Project 5-6 Option 2. See Table V.5-26, p. V.A.3-460, for a summary of Weekday PM Peak Hour results for Existing and Existing plus Project scenarios, for both Options 1 and 2, at the intersection of South Van Ness/Cesar Chavez Street.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The South Van Ness/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F in the PM Peak Hour, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Deterioration of the eastbound and westbound critical movement at South Van Ness/Cesar Chavez Street to LOS F, when comparing Existing plus Project to Existing Conditions, is deemed a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P5-6n) would occur at this intersection with implementation of Project 5-6 Option 2. See Table V.5-27, p. V.A.3-461, for a summary of Weekday PM Peak Hour results for Cumulative and Cumulative plus Project scenarios, for both Options 1 and 2, at the intersection of South Van Ness/Cesar Chavez Street.

Intersection 30: Bryant Street/Cesar Chavez Street

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS D with 51.4 seconds of delay. The Bryant Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. . The westbound lane configuration would be modified from two through lanes, one exclusive left-turn lane, and one shared through-right turn lane to one through lane, one exclusive left-turn lane, and one shared through-right turn lane. The eastbound lane configuration would be modified from one through lane, one shared through-left turn lane, and one shared through-right turn lane to one shared through-left turn lane, and one shared through-right turn lane. Due to the reduction of capacity in the eastbound direction, and westbound direction there would be an increase in delay along these approaches. Because the eastbound and westbound critical movements would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P5-6o) would occur at this intersection with implementation of Project 5-6 Option 1. See Table V.5-26, p. V.A.3-460, for a summary of Weekday PM Peak Hour results for Existing and Existing plus Project scenarios, for both Options 1 and 2, at the intersection of Bryant Street/Cesar Chavez Street.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Bryant Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F in the PM Peak Hour, with more than 80 seconds of average delay under 2025 Cumulative conditions. The Bryant Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Deterioration of the eastbound and westbound critical movements at Bryant Street/Cesar Chavez Street to LOS F, when comparing Existing plus Project to Existing Conditions, is deemed a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P5-6q) would occur at this intersection with implementation of Project 5-6 Option 1. See Table V.5-27, p. V.A.3-461, for a summary of Weekday PM Peak Hour results for Cumulative and Cumulative plus Project scenarios, for both Options 1 and 2, at the intersection of Bryant Street/Cesar Chavez Street.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS D with 51.4 seconds of delay. The Bryant Street /Cesar Chavez Street intersection would operate unsatisfactorily at LOS E, with 66.4 seconds of average delay under Existing plus Project conditions. The

westbound lane configuration would be modified from two through lanes, one exclusive left-turn lane, and one shared through-right turn lane to one through lane, one exclusive left-turn lane, and one shared through-right turn lane. The eastbound lane configuration would be modified from one through lane, one shared through-left turn lane, and one shared through-right turn lane to one through lane, one exclusive left-turn lane, and one shared through-right turn lane. Due to the reduction of capacity in the eastbound direction, and westbound direction there would be an increase in delay along these approaches. Because the eastbound critical movement would either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P5-6p) would occur at this intersection with implementation of Project 5-6 Option 2. See Table V.5-26, p. V.A.3-460, for a summary of Weekday PM Peak Hour results for Existing and Existing plus Project scenarios, for both Options 1 and 2, at the intersection of Bryant Street/Cesar Chavez Street.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Bryant Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F in the PM Peak Hour, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Deterioration of the eastbound and westbound critical movements at Bryant Street/Cesar Chavez Street to LOS F, when comparing Existing plus Project to Existing Conditions, is deemed a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P5-6r) would occur at this intersection with implementation of Project 5-6 Option 2. See Table V.5-27, p. V.A.3-461, for a summary of Weekday PM Peak Hour results for Cumulative and Cumulative plus Project scenarios, for both Options 1 and 2, at the intersection of Bryant Street/Cesar Chavez Street.

Significant Impact TR-P5-6a:

The intersection of Mission Street/Cesar Chavez Street would operate at LOS E under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Mission Street/Cesar Chavez Street intersection would operate at LOS E with 60.6 seconds of delay. However, under 2025 Cumulative plus Project conditions for Option 1, the Mission Street/Cesar Chavez Street intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound direction on Cesar Chavez Street. Because the southbound critical movement deteriorates for Option 1 under 2025 Cumulative conditions to LOS F with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6b:

The intersection of Mission Street/Cesar Chavez Street would operate at LOS E under 2025 Cumulative plus Project conditions for Option 2.

The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS E, with 60.6 seconds of average delay under 2025 Cumulative conditions. The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS E, with 73.5 seconds of delay under 2025 Cumulative plus Project conditions with Option 2. Because the westbound critical movements either deteriorate or will operate at an unacceptable LOS E, with more than 55 seconds of average delay under 2025 Cumulative plus Project conditions for Option 2, a significant impact would occur at this intersection with implementation of Project 5-6.

Significant Impact TR-P5-6c:

The intersection of Guerrero Street/Cesar Chavez Street would operate at LOS F under Existing plus Project conditions for Option 1.

Under Existing conditions, the Guerrero Street/Cesar Chavez Street intersection operates at LOS D with 52.5 seconds of delay. However, under Existing plus Project conditions for Option 1, the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes along the eastbound and westbound approaches of Cesar Chavez Street. Because the southbound, eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact may occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6d:

The intersection of Guerrero Street/Cesar Chavez Street would operate at LOS F under Existing plus Project conditions for Option 2.

Under Existing conditions, the Guerrero Street/Cesar Chavez Street intersection operates at LOS D with 52.5 seconds of delay. However, under Existing plus Project conditions for Option 2, the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the westbound direction of Cesar Chavez Street. Because the southbound, eastbound and westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these

movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6e:

The intersection of Guerrero Street/Cesar Chavez Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.30. However, under 2025 Cumulative plus Project conditions for Option 1, the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the southbound, eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6f:

The intersection of Guerrero Street/Cesar Chavez Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 2.

Under 2025 Cumulative conditions, the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.30. However, under 2025 Cumulative plus Project conditions for Option 2, the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the westbound direction on Cesar Chavez Street. Because the southbound, eastbound and westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6g:

The intersection of Mission Street/Cesar Chavez Street would operate at LOS F under Existing Project conditions for Option 1.

Under Existing conditions, the Mission Street/Cesar Chavez Street intersection operates at LOS D with 37.5 seconds of delay. The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions as a result of the lane configuration changes in the westbound direction

on Cesar Chavez Street. Because the southbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6h:

Under Existing conditions, this intersection operates at LOS D with 37.5 seconds of delay. The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS E, with 55.7 seconds of average delay under Existing plus Project conditions for Option 2 as a result of the lane configuration changes in the westbound direction. Because the westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6i:

The intersection of Mission Street/Cesar Chavez Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 2.

Under 2025 Cumulative conditions, the Mission Street/Cesar Chavez Street intersection would operate at LOS E with 64.9 seconds of delay. However, under 2025 Cumulative plus Project conditions for Option 1, the Mission Street/Cesar Chavez Street intersection would operate at LOS F with more than 80 seconds of average delay as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact may occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6j:

Under 2025 Cumulative conditions, the Mission Street/Cesar Chavez Street intersection would operate at LOS E with 64.9 seconds of delay. However, under 2025 Cumulative plus Project conditions for Option 2, the Mission Street/Cesar Chavez Street intersection would operate at LOS F with more than 80 seconds of average delay as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6k:

Under Existing conditions, the Cesar Chavez Street/South Van Ness Avenue intersection operates at LOS C with 32.4 seconds of delay. However, under Existing plus Project conditions for Option 1, the South Van Ness Avenue/Cesar Chavez Street intersection would operate at LOS F with more than 80 seconds of average delay as a result of the lane configuration changes to the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6l:

Under Existing conditions, the Cesar Chavez Street/South Van Ness Avenue intersection operates at LOS C with 32.4 seconds of delay. However, under Existing plus Project conditions for Option 2, the South Van Ness Avenue/Cesar Chavez Street intersection would operate at LOS E with 78.5 seconds of average delay as a result of the lane configuration changes to the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6m:

The intersection of South Van Ness Avenue/Cesar Chavez Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 2.

Under 2025 Cumulative conditions, the Cesar Chavez Street/South Van Ness Avenue intersection would operate at LOS F with a V/C ratio of 1.49. However, under 2025 Cumulative plus Project conditions for Option 1, the South Van Ness Avenue/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.91 as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6n:

Under 2025 Cumulative conditions, the Cesar Chavez Street/South Van Ness Avenue intersection would operate at LOS F with a V/C ratio of 1.49. However, under 2025 Cumulative

plus Project conditions for Option 2, the South Van Ness Avenue/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.53 as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6o:

The intersection of Bryant Street/Cesar Chavez Street would operate at LOS F under Existing plus Project conditions for Option 2.

Under Existing conditions, the Bryant Street/Cesar Chavez Street intersection operates at LOS D with 51.4 seconds of delay. However, under Existing plus Project conditions for Option 1, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F with more than 80 seconds of average delay as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact may occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6p:

Under Existing conditions, the Bryant Street/Cesar Chavez Street intersection operates at LOS D with 51.4 seconds of delay. However, under Existing plus Project conditions for Option 2, the Bryant Street/Cesar Chavez Street intersection would operate at LOS E with 66.4 seconds of average delay as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6q:

The intersection of Bryant Street/Cesar Chavez Street would operate at LOS F under Cumulative plus Project conditions for Option 2.

Under 2025 Cumulative conditions, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.71. However, under 2025 Cumulative plus Project conditions for Option 1, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 2.27 as a result of the lane configuration changes in the eastbound and

westbound directions. Because the northbound, eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6e through 5-6q

As discussed above (TR-P5-6e through TR-P5-6q), there would be significant impacts to intersection LOS at the Guerrero Street/Cesar Chavez Street intersection, under Existing plus Project conditions with Option 2 and, under 2025 Cumulative conditions with Options 1and 2. There would also be significant impacts to intersection LOS at the Mission Street/Cesar Chavez Street intersection under Existing plus Project conditions with Options 1 and 2, and under 2025 Cumulative conditions with Options 1 and 2. There would also be significant impacts to intersection LOS at the South Van Ness/Cesar Chavez Street intersection under Existing plus Project conditions with Options 1 and 2, and under 2025 Cumulative conditions with Options 1 and 2. There would also be significant impacts to intersection LOS at the Bryant Street/Cesar Chavez Street intersection under Options 1 and 2, and under 2025 Cumulative conditions with Option 1.

Significant Impact TR-P5-6r:

Under 2025 Cumulative conditions, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.71. However, under 2025 Cumulative plus Project conditions for Option 2, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 2.23 as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the northbound, eastbound and westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

TRANSIT

Muni bus lines 12 and 27 operate along portions of Project 5-6. Muni bus line 12 runs westbound along Cesar Chavez Street between Folsom and Mission Streets with approximately five buses per hour during the AM and PM peak periods. Muni bus line 27 runs along Cesar Chavez Street westbound between South Van Ness Avenue and Valencia Street in both directions between South Van Ness Avenue and Bryant Street with approximately six buses per hour each way during the AM and PM peak periods. Both Muni bus lines 12 and 27 also operate on a portion of the 26th Street segment of Project 5-6 in the eastbound direction between

Mission and Folsom Streets (Muni bus line 12) and between Valencia Street and South Van Ness Avenue (Muni bus line 27). Eastbound bus stops are located on 26th Street at Mission, South Van Ness Avenue and Folsom Street and on Cesar Chavez at Folsom, Harrison, and Florida Streets. Westbound bus stops are located at almost every block of Cesar Chavez Street including Bryant, Alabama, Harrison, Folsom, Valencia and Mission Streets and South Van Ness Avenue. Transit volumes are relatively low along Project 5-6; and bicycle volumes were also observed[13] to be very low. No conflicts between transit and bicyclists at bus stops were observed either along Cesar Chavez Street or 26th Street.

Project 5-6 is located on segments of both Cesar Chavez Street and 26th Street. The transit delay impacts for Cesar Chavez are presented below. The 26th Street segment of Project 5-6 which carries eastbound Muni bus line 12 and a segment of eastbound Muni bus line 27 would not include lane removal or changes to the bus stops. In addition, interaction between bicyclists and buses would not change from existing conditions and is, therefore, not included in the transit delay discussion below.

- **Option 1**

  Existing and Existing plus Project Conditions
  Option 1 would add approximately 474 seconds (7.9 minutes) of delay westbound in the PM peak period for Muni bus line 12. Option 1 would add approximately 540 seconds (9.0 minutes) of delay westbound and approximately 327 seconds (5.5 minutes) of delay eastbound in the PM peak period for Muni bus line 27. The headways for Muni bus lines 12 and 27 in the PM peak period are 10 and 12 minutes, respectively. For Muni bus line 12, the total added delay of 474 seconds (7.9 minutes) would exceed the transit delay threshold of 6 minutes. For Muni bus line 27, the total added delay of 867 seconds (14.5 minutes) would exceed the transit delay threshold of 6 minutes. Therefore, a significant transit impact (Significant Impact TR-P5-6s and TR-P5-6t) would occur for Muni bus lines 12 and 27 with implementation of Project 5-6 Option 1 under Existing plus Project conditions.

  2025 Cumulative and 2025 Cumulative plus Project Conditions
  In the PM peak period, Option 1 would add approximately 1,487 seconds (24.7 minutes) of delay westbound for Muni bus line 12. Option 1 would add approximately 1,798 seconds (29.9 minutes) of delay westbound and approximately 631 seconds (10.5 minutes) of delay eastbound for Muni bus line 27. The headways for Muni bus lines 12 and 27 in the PM peak period are 10 and 12 minutes, respectively. For Muni bus line 12, the total added delay of approximately 1,487 seconds (24.7 minutes) would be greater than the transit delay threshold of 6 minutes. For Muni bus line 27, the total added delay

[13] Field surveys were conducted by CHS Consulting on Tuesday, October 30, 2007 during the PM peak.

of approximately 2,429 seconds (40.5 minutes) would be greater than the transit delay threshold of 6 minutes. Therefore, a significant transit impact (Significant Impact TR-P5-6u and TR-P5-6v) would occur for Muni bus lines 12 and 27 with the implementation of Project 5-6 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
Option 2 would add approximately 261 seconds (4.4 minutes) of delay westbound in the PM peak period for Muni bus line 12. Option 2 would add approximately 330 seconds (5.5 minutes) of delay westbound and reduce delay by 41 seconds eastbound in the PM peak period for Muni bus line 27. The headways for Muni bus lines 12 and 27 in the PM peak period are 10 and 12 minutes, respectively. For Muni bus line 12, the total added delay of 261 seconds (4.4 minutes) would be less than the transit delay threshold of 6 minutes. For Muni bus line 27, the total added delay of 289 seconds (4.8 minutes) would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not result from implementation of Project 5-6 Option 2 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project
In the PM peak period, Option 2 would add approximately 159 seconds (2.7 minutes) of delay westbound for Muni bus line 12. Option 2 would add approximately 479 seconds (7.9 minutes) of delay westbound with a reduction in delay of approximately 345 seconds (5.8 minutes) eastbound for Muni bus line 27. The headways for Muni bus lines 12 and 27 in the PM peak period are 10 and 12 minutes, respectively. For Muni bus line 12, the total added delay of 159 seconds (2.7 minutes) would be less than the transit delay threshold of 6 minutes. For Muni bus line 27, the total added delay of 134 seconds (2.3 minutes) would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not result from with implementation of Project 5-6 Option 2 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P5-6s:

Muni bus line 12 would experience significant delays under Existing plus Project conditions for Project 5-6 Option 1.

Significant Impact TR-P5-6t:

Muni bus line 27 would experience significant delays under Existing plus Project conditions for Project 5-6 Option 1.

Significant Impact TR-P5-6u:

Muni bus line 12 would experience significant delays under 2025 Cumulative plus Project conditions for Option 1.

Significant Impact TR-P5-6v:

Muni bus line 27 would experience significant delays under 2025 Cumulative plus Project conditions for Option 1.

PARKING

Project 5-6 Option 1 could remove up to 45-53 on-street parking spaces, primarily due to potential sidewalk widening at corners. There would be no changes in parking layout or the number of parking spaces along the Cesar Chavez section of Project 5-6 with either Option 1 or Option 2.

Project 5-6 on 26th Street would remove approximately four on-street parking spaces per block between Hampshire and Sanchez Streets. This would result in a total loss of approximately 76 spaces over this 1.25 mile section. There are approximately 400 spaces along this section. Parking occupancy in this area is relatively high, and primarily serves the residences along 26th Street. There is little retail development with the exception of neighborhood commercial businesses at the intersections of 26th Street with major cross streets, i.e. Folsom and Mission Streets.

Implementation of the 26th Street section or Option 1 of the Cesar Chavez section of Project 5-6 would increase parking occupancy in the area. San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

In San Francisco, parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social effects need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact. (CEQA Guidelines Section 15131(a).) The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality

impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor. Therefore, there would be no significant parking impacts with implementation of Project 5-6 for either Option 1 or Option 2.

PEDESTRIAN

Pedestrian volumes are generally very low along Project 5-6.

- **Option 1**
  With Option 1, changes would be made to the center median including widening, removing and relocating. Even without the center median, there is adequate time in the pedestrian crossing signal phase for pedestrians to safely cross Cesar Chavez Street. At some locations, bulb-outs would be added to widen the sidewalk and reduce crossing distance. Therefore, there would be no significant pedestrian impacts with implementation of Project 5-6 Option 1.

- **Option 2**
  With Option 2, some segments of the center median would be removed; others would be widened or retained as-is. No changes would be made to sidewalk width. Even without the center median, there is adequate time in the pedestrian crossing signal phase for pedestrians to safely cross Cesar Chavez Street. Therefore, there would be no pedestrian impacts with implementation of Project 5-6 Option 2.

BICYCLE

For both Options 1 and Option 2, bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. The installation of sharrow would increase the motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the "door zone".[14] Hence, for Project 5-6 neither Option 1 nor Option 2 would have a significant impact on cyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This area has mostly residential uses. Observations[15] noted occasional double-parking by delivery vehicles in the curbside travel lane, but typically on-street loading demand is low. There would be no changes in on-street and off-street layout of loading spaces. Therefore, there would be no significant loading impacts with implementation of either Option 1 or Option 2.

PROJECT 5-7: GLEN PARK AREA BICYCLE LANES, SEGMENT A - CONNECTION BETWEEN ALEMANY BOULEVARD AND SAN JOSE AVENUE, AND SEGMENT B - CONNECTION BETWEEN MONTEREY BOULEVARD AND SAN JOSE AVENUE

a. Connection between Alemany Boulevard and San Jose Avenue via Arlington Street, Bosworth Street, Lyell Street, Milton Street, Rousseau Street, and Still Street.

Project 5-7 Segment A would add a new route to the City's existing bicycle route network on northbound Milton Street between Bosworth Street and San Jose Avenue. The project would involve the installation of Class II and Class III bicycle facilities along portions of existing Bicycle Route 45 and existing Bicycle Route 55 to close a gap between the existing bicycle lanes on San Jose Avenue and Alemany Boulevard on both sides of the I-280 Freeway and to provide a better connection for bicyclists to the Glen Park BART Station. Project 5-7 includes two design options.

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[14] In February 2004, Alta Planning + Design completed a study, *San Francisco's Shared Lane Pavement Markings: Improving Bicycle Safety,* on shared lane markings for Class III bikeways in San Francisco. In this study, a key conclusion was that the pavement markings (also known as sharrow markings) increased the awareness of the bicyclists' and motorists' position on the road. Bicyclists tended to ride further from parked cars, and motorists tended to pass bicyclists at a greater distance from the pavement marking. The report's recommendation was to use the sharrow markings on appropriate shared lanes but not as a substitution for bicycle lanes where feasible.

[15] Field surveys were conducted by CHS Consulting on Tuesday, October 30, 2007 during the midday.

b. Connection between Monterey Boulevard and San Jose Avenue via Monterey Boulevard and San Jose Avenue ramps.

Project 5-7 Segment B would add a new route to the City's existing bicycle route network. The project would involve the installation of Class I, Class II, and Class III bicycle facilities to close a gap between the existing bicycle lanes on San Jose Avenue, existing Bicycle Route 45, and the existing Bicycle Route 70 (Class III) on Circular Avenue.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

a. Muni bus lines 23, 44, and 52 run on different segments in this area. In addition, the Glen Park BART Station is located along Project 5-7a on the northeast corner of the intersection of Bosworth and Diamond Streets. On the most well-served segment of Project 5-7a (Bosworth Street between San Jose Avenue and Diamond Street) there are approximately 16 buses per hour during the AM and PM peak periods. Transit service is less frequent on other segments of Project 5-7a. Muni bus lines 44 and 52 have an eastbound bus stop on Bosworth Street at the far side of Diamond Street, a westbound stop on Bosworth Street at the nearside of Diamond Street, and a westbound stop on Still Street at the far side of Rotteck Street. Several employer shuttles also serve the Glen Park BART Station, operating throughout the day but with the greatest frequency in the AM and PM peak periods. In the AM peak period, employer shuttles, including large 56-passenger coach buses and smaller 20-passenger shuttles, illegally pickup passengers at the bus stop on the southern side of Bosworth Street. During the PM peak period employer shuttles unloaded passengers at the loading/disabled parking bay on the east side of Diamond Street south of Bosworth Street. Observations[16] show that this loading area is often heavily used by both the shuttles and waiting automobiles. During the PM peak demand, shuttles may double park on Diamond Street at the southern end of the block (away from Bosworth Street) to load/unload passengers. While this activity on Diamond Street is an important activity around the Glen Park BART Station, it does not occur along Project 5-7a and would not be affected by changes proposed by Project 5-7a.

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[16] Field surveys were conducted by CHS Consulting and Wilbur Smith Associates on Friday, 26, 2007 and Tuesday, September 30, 2008, respectively during the PM peak period.

For this segment of Bosworth Street approaching Diamond Street, both Option 1 and Option 2 would include a westbound bicycle lane and eastbound sharrows. These near-term improvements would not change the location or dimension of the existing bus stops at the Bosworth Street/Diamond Street intersection. In fact, the westbound bicycle lanes would terminate before the westbound nearside bus stop on Bosworth Street at Diamond Street. However, westbound buses may stop in the bicycle lane before the bus stop to load/unload passengers as evidenced by current practices due to bus bunching at the stop and traffic blocking access to the stop. This potential conflict is discussed below in the Bicycle section. Project 5-7a also would not affect Muni bus services along Bosworth Street because there would be no reduction in the number of travel lanes; the resulting lane width with the proposed bicycle lanes would be at least 11 feet in width, which is sufficient for Muni bus operation.

Under Option 1, the westbound bus stop on Still Street is a pole stop without dedicated space for passenger loading. Thus, Muni buses must stop in the travel lane to load and unload passengers. With the installation of a westbound bicycle lane on Still Street under Option 1, Muni buses would be required to stop in the bicycle lane for passenger loading, causing conflict with bicyclists. However, transit (six buses per hour during the peak AM and PM peak periods), bicycle and traffic volumes are low in this area; therefore, the potential for conflicts and impact on travel time or transit operation is low. Therefore, there would be no significant transit impacts with implementation of Project 5-7a Option 1.

b. Under Option 2, there would be no Class II bicycle lane along Still Street and no changes affecting transit service; therefore, there would be no impacts to transit resulting from Project 5-7a Option 2.

There is no transit service in segment b; therefore, there would be no transit impacts with implementation of Project 5-7b.

PARKING

a. Parking demand is generally high along Bosworth Street and Lyell Street, but moderate along Alemany Boulevard, Rousseau, Still, and Arlington Streets.

There would be a total loss of approximately 59 on-street parking spaces along Arlington and Bosworth Streets under Option 1 and 56 spaces under Option 2. The loss of 56 to 59 parking spaces would increase the overall occupancy rate along these two

streets from approximately 77 percent to over 100 percent for both options 1 and 2. The parking needs are different north and south of the Still and Lyell Street intersection. Most parking spaces along these two streets are occupied by transit riders during the day. As a result of parking removal, these drivers would need to find parking in neighboring streets further away from the Glen Park BART Station thereby increasing parking occupancy rates on those neighborhood streets currently not impacted by BART riders.

While parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact under the CEQA, the loss of parking could cause potential secondary effects, such as drivers circling and looking for a parking space on neighboring streets. The secondary effects are typically offset by a reduction in vehicle trips due by others who are aware of constrained parking conditions and find alternative modes to their destination. Hence, any secondary environmental impacts that may result from a shortfall in parking in the vicinity of Project 5-7a would be minor. Since shortage of parking is not an environmental impact under CEQA, there would be no significant parking impacts with implementation of Project 5-7a with either Option 1 or Option 2.

b. No parking removal would result from implementation of Project 5-7b; therefore there would be no parking impacts with implementation of Project 5-7b.

PEDESTRIAN

a. Pedestrian volumes are generally low, and there would be no changes in sidewalk width or crosswalk layout under either Option 1 or Option 2. Pedestrian activity in the vicinity of the Glen Park BART Station is high with considerable pedestrian volumes crossing both Bosworth and Diamond Streets. With both Option 1 and Option 2, the westbound bicycle lane on Bosworth Street would terminate before the intersection with Diamond Street. Therefore, the crosswalk and interactions between pedestrians and bicyclists would not change as a result of either option at this location. In addition, no changes to crossing distance or to interactions between pedestrians and bicyclists would result from the installation of sharrows in the eastbound travel lane. Therefore, there would be no pedestrian impacts as a result of Project 5-7a.

b. No pedestrians are allowed on the ramps included in Project 5-7b; therefore, there would be no pedestrian impacts with implementation of Project 5-7b.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use under both Project 5-7a Option 1 and Option 2 and Project 5-7b. The installation of sharrows would increase motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone'. There could be potential conflicts between westbound buses and bicyclists on Bosworth Street approaching Diamond Street when buses are not able to fully enter the near-side bus stop because the bus stop is occupied. As currently happens, buses may stop before the bus stop to load/unload passengers. With Project 5-7a for either Option 1 or Option 2, this loading/unloading activity may occur in the westbound bicycle lane. Since the bicycle lane would be terminated before the bus stop, bicyclists will be preparing to re-enter the general traffic lane. In the event that a bus is blocking the bicycle lane, bicyclists would be required to merge a bit sooner. This would not differ from what occurs under Existing conditions. Hence, Project 5-7 would not have a significant impact on cyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

a. These streets are mostly in a residential area, and demand for truck loading is low. The parking removal would not include the removal of on-street yellow commercial freight loading spaces, and there would be no changes in off-street loading areas for either Option 1 or Option 2. Passenger loading activity at the Glen Park BART Station is considerable. The designated passenger loading area is located on the eastside of Diamond Street south of Bosworth Street and is not included on the alignment of Project 5-7a. Employer shuttles also use this loading bay; at PM peak times, shuttles are sometimes forced to double-park on Diamond Street to load/unload passengers. Overflow demand for passenger loading also extends to Bosworth Street in front of the BART Station in the AM peak. Existing passenger loading activities at the Glen Park BART Station would not be changed by Project 5-7a. Therefore, there would be no significant loading impacts as a result of either Option 1 or Option 2 of Project 5-7a.

b. No loading occurs along Project 5-7b; therefore there would be no loading impacts as a result of Project 5-7b.

PROJECT 5-8: KANSAS STREET BICYCLE LANES, 23RD STREET TO 26TH STREET

The Project would add Class II bicycle lanes in both directions between 23rd and 26th Streets. Travel lanes would be narrowed at the intersections to create painted or raised pedestrian refuges.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus lines 19 and 48 run only in the northbound direction along Project 5-8, with approximately 11 buses per hour during the AM and PM peak periods. There are three bus stops within this segment of Kansas Street at 23rd, 25th, and 26th Streets. Currently, the wide curb lanes sufficiently accommodate buses, vehicles, and bicyclists at the bus stops. Transit volumes are moderate and bicycle volumes are generally low, so interactions and potential for conflicts between buses and bicyclists at the bus stops is minimal.

With Project 5-8, the interactions between buses and bicyclists would not change from current conditions at the northbound far side bus stop at 26th Street or the northbound nearside bus stop at 23rd Street. The 20-foot curb lane width at the northbound bus stops on the far side of 26th Street and the 22-foot curb lane at the nearside of 23rd Street would accommodate the overall moderate bus, and low vehicle and bicyclist volumes. Buses stopping at the nearside of 25th Street would be required to stop in the bicycle lane for passenger loading, causing conflict with bicyclists. However, transit (11 buses per hour during the AM and PM peak hours), bicycle, and traffic volumes are moderate in this area; therefore, the addition of bicycle lanes would not change transit capacity, transit operation, or travel time. Therefore, there would be no significant transit impacts with implementation of Project 5-8.

PARKING

There would be no changes in parking layout or in the number of parking spaces in this segment. Therefore, there would be no parking impacts.

PEDESTRIAN

Pedestrian volumes are generally low, and there would be no changes in sidewalk width or crosswalk layout. The interactions between pedestrians and bicyclists would not change as a result of Project 5-8. Painted or raised pedestrian refuges would be created at the intersections

through narrowing of the travel lanes to reduce pedestrian crossing distances and improve pedestrian safety along this segment of Kansas Street. Therefore, there would be no significant pedestrian impacts with implementation of Project 5-8.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. Because the bicycle lane would be striped adjacent to a seven-foot wide parking, bicyclists may travel in the "door zone," but bicycle volumes are generally low, and the 13-foot wide travel lane would provide buffer space for bicyclists to avoid potential conflicts. Therefore, Project 5-8 would not result in a significant impact to bicyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This area has mostly residential uses, which typically do not have an on-street loading demand that would conflict with bicyclists. The available on-street parking spaces would accommodate any occasional loading needs. Therefore, there would be no significant loading impacts with implementation of Project 5-8.

PROJECT 5-9: OCEAN AVENUE BICYCLE LANES, ALEMANY BOULEVARD TO LEE AVENUE

Project 5-9 would add a Class II bicycle lane in each direction between San Jose Avenue and Alemany Boulevard.

There are two options for the segment of Ocean Avenue between Lee and San Jose Avenues. Option 1 would add a westbound Class II bicycle lane between Phelan and San Jose Avenues and remove a westbound travel lane between Geneva Avenue and the I-280 off-ramp. Option 1 would also add an eastbound Class II bicycle lane between Lee Avenue and the I-280 on-ramp and remove an eastbound travel lane between Phelan Avenue and approximately 100 feet east of the I-280 off-ramp. Approximately 50 on-street parking spaces would be removed.

Option 2 would add a westbound Class II bicycle lane between San Jose Avenue and the I-280 off-ramp and an eastbound Class II bicycle lane between Geneva Avenue and the I-280 on-ramp. Approximately 90 on-street parking spaces would be removed. Option 2 would also add sharrows in the westbound direction to the existing Class III bicycle route between the I-280 Southbound off-ramp and Lee Avenue.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS analysis was conducted for the AM and PM peak hour.

AM Peak Hour

One study intersection is included for the AM Peak Hour for Project 5-9.

Intersection 41: Phelan Avenue/Geneva Avenue/Ocean Avenue

The Phelan Avenue/Geneva Avenue/Ocean Avenue intersection is common to Projects 5-9 and 5-10 within the Cluster 5 area. For Project 5-9, the lane configuration at the intersection remains the same as under Existing (No Project) conditions for Option 2. However, Project 5-9 reduces the capacity in the eastbound direction on Ocean Avenue for this intersection. Under Project 5-10, no lane configuration changes are proposed for both Options 1 and 2 and the geometry remains the same as Existing (No Project) conditions. Since the impacts of both Projects 5-9 and 5-10 in combination would not result in a significant traffic impact for the AM peak hour, there would be no significant traffic impact from individual Project 5-9. Therefore, the analysis below reflects the impacts of both projects. The analysis for Options 1 and 2 of the combined Projects 5-9 and 5-10 is presented below.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 5-9 and 5-10 combined – AM Analysis
  In the AM Peak hour, under Existing conditions, this intersection operates at LOS B with 19.5 seconds of delay. The Phelan Avenue/Geneva Avenue/Ocean Avenue intersection would operate satisfactorily at LOS B, with 19.9 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration would be modified from one through lane, one exclusive left-turn lane, and one shared through-right turn lane to one through lane, one exclusive left-turn lane, and one exclusive right-turn lane. Due to the lane configuration adjustment in the eastbound direction, there would be an increase in delay along this approach. However, the average intersection delay would increase by 0.4 seconds, compared to Existing conditions. Therefore, implementation of Option 1 of the combined Projects 5-9 and 5-10 would not cause a significant traffic impact to the Phelan Avenue/Geneva Avenue/Ocean Avenue intersection under Existing plus Project conditions. These results are summarized in Table V.5-28, p. V.A.3-486

TABLE V.5-28
CLUSTER 5 – PROJECT 5-9[b]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS	Average Delay[a]	LOS
41.	Phelan Avenue/Geneva Avenue/Ocean Avenue[b]	19.5	B	19.9	B	19.5	B

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.

b. LOS and average delay for Phelan Avenue/Geneva Avenue/Ocean Avenue for combined impacts of Projects 5-9 and 5-10.

Existing and Existing plus Project Conditions for Projects 5-9 and 5-10 combined – PM Analysis

In the PM Peak hour, under Existing conditions, this intersection operates at LOS B with 17.6 seconds of delay. The Phelan Avenue/Geneva Avenue/Ocean Avenue intersection would operate satisfactorily at LOS B, with 18.0 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration would be modified from one through lane, one exclusive left-turn lane, and one shared through-right turn lane to one through lane, one exclusive left-turn lane, and one exclusive right-turn lane. Due to the lane configuration adjustment in the eastbound direction, there would be an increase in delay. However, the average intersection delay would increase by 0.7 seconds, compared to Existing conditions. Therefore, Projects 5-9 and 5-10 with Option 1 would not cause a significant traffic impact to the Phelan Avenue/Geneva Avenue/Ocean Avenue intersection under Existing plus Project conditions. See Table V.5-30, p. V.A.3-488, for these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-9 and 5-10 combined – AM Analysis

The Phelan Avenue/Geneva Avenue/Ocean Avenue intersection would operate satisfactorily at LOS C in the AM Peak Hour, with 28.2 seconds of average delay under 2025 Cumulative conditions. The Phelan Avenue/Geneva Avenue/Ocean Avenue intersection would operate satisfactorily at LOS C, with 28.4 seconds of delay under 2025 Cumulative plus Project conditions. Since the intersection continues to operate at acceptable LOS, no significant impacts would occur at this intersection with the implementation of Option 1 of the combined Projects 5-9 and 5-10. Table V.5-29, p. V.A.3-487, summarizes these results.

TABLE V.5-29
CLUSTER 5 – PROJECT 5-9[b]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS[b]	Average Delay[a]	LOS
41.	Phelan Avenue/Geneva Avenue/Ocean Avenue[b]	28.2	C	28.4	C	28.2	C

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.

b. LOS and average delay for Phelan Avenue/Geneva Avenue/Ocean Avenue for combined impacts of Projects 5-9 and 5-10.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-9 and 5-10 combined – PM Analysis

In the PM Peak Hour, the Phelan Avenue/Geneva Avenue/Ocean Avenue intersection would operate satisfactorily at LOS D, with 38.6 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS D, with 43.1 seconds of delay. Therefore, a significant impact would not occur at this intersection with the implementation of Option 1 of the combined Projects 5-9 and 5-10. See Table V.5-31, p. V.A.3-488, for these results.

TABLE V.5-30
CLUSTER 5 – PROJECT 5-9[b,c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS	Average Delay[a]	LOS
34.	Alemany Boulevard/Ocean Avenue[b]	16.1	B	17.3	B	16.1	B
41.	Phelan Avenue/Geneva Avenue/Ocean Avenue[c]	17.6	B	18.0	B	17.6	B
42.	San Jose Avenue/Ocean Avenue	25.2	C	25.2	C	25.2	C

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. LOS and average delay for Alemany Boulevard/Ocean Avenue for combined impacts of Projects 5-3 and 5-9.
c. LOS and average delay for Phelan Avenue/Geneva Avenue/Ocean Avenue for combined impacts of Projects 5-9 and 5-10.

TABLE V.5-31
CLUSTER 5 – PROJECT 5-9[c,d]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
34.	Alemany Boulevard/Ocean Avenue[c]	17.6	B	20.4	C	17.6	B
41.	Phelan Avenue/Geneva Avenue/Ocean Avenue[d]	38.6	D	43.1	D	38.6	D
42.	San Jose Avenue/Ocean Avenue	**>80**	**F**	**>80**	**F**	**>80**	**F**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. LOS and average delay for Alemany Boulevard/Ocean Avenue for combined impacts of Projects 5-3 and 5-9.
d. LOS and average delay for Phelan Avenue/Geneva Avenue/Ocean Avenue for combined impacts of Projects 5-9 and 5-10.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 5-9 and 5-10 combined – AM Analysis

In the AM Peak hour, under Existing conditions, this intersection operates at LOS B with 19.5 seconds of delay. The Phelan Avenue/Geneva Avenue/Ocean Avenue intersection would continue to operate satisfactorily at LOS B, with 19.5 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, implementation of Option 2 of the combined Projects 5-9 and 5-10 would not cause a significant impact to the Phelan Avenue/Geneva Avenue/Ocean Avenue. See Table V.5-28, p. V.A.3-486, for these results.

Existing and Existing plus Project Conditions for Projects 5-9 and 5-10 combined – PM Analysis

In the PM Peak Hour, under Existing conditions, this intersection operates at LOS B with 17.6 seconds of delay. The Phelan Avenue/Geneva Avenue/Ocean Avenue intersection would operate satisfactorily at LOS B, with 17.6 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, implementation of Option 2 of the combined Projects 5-9 and 5-10 would not cause a significant impact to the Phelan Avenue/Geneva Avenue/Ocean Avenue intersection under Existing plus Project conditions. See Table V.5-30, p. V.A.3-488, for these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-9 and 5-10 combined – AM Analysis

The Phelan Avenue/Geneva Avenue/Ocean Avenue intersection would continue to operate unsatisfactorily at LOS C in the AM Peak Hour, with 28.2 seconds of delay under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at this intersection with the implementation of Option 2 of the combined Projects 5-9 and 5-10. Table V.3-29, p. V.A.3-487, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-9 and 5-10 combined – PM Analysis

In the PM Peak Hour, the Phelan Avenue/Geneva Avenue/Ocean Avenue intersection would operate satisfactorily at LOS D, with 38.6 seconds of delay under 2025 Cumulative plus Project conditions. No lane configuration changes are proposed under 2025 Cumulative plus Project conditions relative to 2025 Cumulative conditions. Therefore, a significant impact would not occur at this intersection with the

implementation of Option 2 of the combined Projects 5-9 and 5-10. Table V.5-31, p. V.A.3-488, summarizes these results.

Intersection 34: Alemany Boulevard/Ocean Avenue

The Alemany Boulevard/Ocean Street intersection is common to Projects 5-3 and 5-9 within the Cluster 5 area. One design option is proposed for Project 5-3. Project 5-9, two design options - are proposed. For both Projects 5-3 and 5-9, no lane configuration changes are proposed relative to Existing conditions for Option 1. Similarly, for Project 5-9, Option 2 no lane configuration changes are proposed. Since there are no lane configuration changes with either near-term improvements, the impacts of both Projects 5-3 and 5-9 would not result in a significant traffic impact for the PM peak hour. Hence, there would be no significant traffic impact from individual project 5-9 with either Option 1 or Option 2 for either Existing plus or Project and 2025 Cumulative plus Project Conditions.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 5-3 and 5-9 combined
  Please see the analysis of impacts for the combined projects under Project 5-3 on p. V.A.3-431.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-3 and 5-9 combined
  Please see the analysis of impacts for the combined projects under Project 5-3 on p. V.A.3-431.

- **Option 2**

  Existing and Existing plus Project Conditions for Projects 5-3 and 5-9 combined
  Please see the analysis of impacts for the combined projects under Project 5-3 on p. V.A.3-432.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-3 and 5-9 combined
  Please see the analysis of impacts for the combined projects under Project 5-3 on p. V.A.3-432.

Intersection 42: San Jose Avenue/Ocean Avenue

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 25.2 seconds of delay. The San Jose Avenue/Ocean Avenue intersection would operate satisfactorily at LOS C, with 25.2 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, a significant impact would not occur at this intersection with the implementation of Project 5-9 Option 1. See Table V.5-30, p. V.A.3-488, for PM Peak Hour results for Existing and Existing plus Project results at the intersection of San Jose Avenue/Ocean Avenue.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The San Jose Avenue/Ocean Avenue intersection would operate unsatisfactorily at LOS F in the PM Peak Hour, with more than 80 seconds of average delay under 2025 Cumulative conditions. The San Jose Avenue/Ocean Avenue intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at this intersection with the implementation of Project 5-9 Option 1. See Table V.5-31, p. V.A.3-488, for PM Peak Hour results for Cumulative and Cumulative plus Project results at the intersection of San Jose Avenue/Ocean Avenue.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 25.2 seconds of delay. The San Jose Avenue/Ocean Avenue intersection would operate satisfactorily at LOS C, with 25.2 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, a significant impact would not occur at this intersection with the implementation of Project 5-9 Option 2. See Table V.5-30, p. V.A.3-488, for PM Peak Hour results for Existing and Existing plus Project results at the intersection of San Jose Avenue/Ocean Avenue.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The San Jose Avenue/Ocean Avenue intersection would operate unsatisfactorily at LOS F in the PM Peak Hour, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study

intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at this intersection with the implementation of Project 5-9 Option 2. See Table V.5-31, p. V.A.3-488, for PM Peak Hour results for Cumulative and Cumulative plus Project results at the intersection of San Jose Avenue/Ocean Avenue.

TRANSIT

Muni light rail line K-Ingleside runs in the center median in each direction on Ocean Avenue between Lee and San Jose Avenues and within an exclusive right-of-way between Geneva and San Jose Avenues. There are approximately seven trains per hour each way during the AM and PM peak periods. K-Ingleside also stops in the center median to load and unload passengers, so there is no interaction between trains and bicyclists.

Muni bus lines 36 and 49 run along Ocean Avenue between Alemany Boulevard and Phelan Avenue with approximately 10 buses per hour each way in the AM and PM peak periods; Muni bus line 26 runs only in the eastbound direction between Howth Street and San Jose Avenue with approximately three buses per hour in the AM and PM peak periods. Muni bus lines 29, 9X, 9AX, 9BX, operate on Ocean Avenue between Geneva Avenue and Lee Avenue (Muni bus line 29) or Phelan Avenue (Muni bus routes 9X, 9AX, and 9BX) with approximately 24 buses per hour each way in the AM and PM peak periods. There are four westbound bus stops on Ocean Avenue and six eastbound bus stops, and two light rail bus stops in each direction in the center lane at Lee and Geneva Avenues. Transit volumes are relatively high along this corridor, but since bicycle volumes are generally low, interactions between buses and bicyclists are infrequent.

Between Lee and San Jose Avenues, under both Option 1 and Option 2 the westbound bus stop on the far side of San Jose Avenue would have a substandard seven-foot width, and buses would protrude into the proposed five-foot bicycle lane. Bicyclists currently pass buses to the left, and this interaction would not change as a result of the proposed striping. Along the remaining segment of Ocean Avenue, both options would allocate sufficient widths for travel lanes and Class II bicycle lanes at the bus stops so that the proposed bicycle lanes would not affect transit travel time or transit operation. There would be no changes in the route or stop locations.

Project 5-9 shares a common intersection (Intersection 41: Phelan Avenue/Geneva Avenue/Ocean Avenue) with Project 5-10: Phelan Avenue Bicycle Lanes, Judson Avenue to Ocean Avenue. The transit delay analysis below (Projects 5-9 and 5-10 combined) reflects the

combined impact of Projects 5-9 and 5-10 modifications to the Phelan Avenue/Geneva Avenue/Ocean Avenue intersection on transit delay.

Since combined Projects 5-9 and 5-10 would not result in a significant transit impact at the Intersection 41 for either the AM or PM peak hour under Existing plus Project conditions, there would be no significant transit impacts from individual Project 5-9 at the intersection of Phelan Avenue/Geneva Avenue/Ocean Avenue for both the AM and PM peak hour.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 5-9 and 5-10 combined
  Option 1 would add approximately 6 seconds of delay eastbound and approximately 1 second of delay westbound. The headways for Muni transit lines operating on this segment of Ocean Avenue range from 7.5 minutes to 30 minutes. The total added delay of 7 seconds would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with implementation of combined Projects 5-9 and 5-10 Option 1 under Existing plus Project conditions.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-9 and 5-10 combined
  Option 1 would add approximately 54 seconds of delay eastbound and approximately 2 seconds of delay westbound. The headways for Muni transit lines operating on this segment of Ocean Avenue range from 7.5 minutes to 30 minutes. The total added delay of 56 seconds would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with implementation of combined Projects 5-9 and 5-10 Option 1 under Existing plus Project conditions.

- **Option 2**

  Existing and Existing plus Project Conditions for Projects 5-9 and 5-10 combined
  Option 2 would add approximately 1 second of delay eastbound and approximately 1 second of delay westbound. The headways for Muni transit lines operating on this segment of Ocean Avenue range from 7.5 minutes to 30 minutes. The total added delay of 2 seconds would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with implementation of combined Projects 5-9 and 5-10 Option 2 under Existing plus Project conditions.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-9 and 5-10 combined
  Option 2 would have no change in delay in the eastbound direction and approximately 159 seconds (2.7 minutes) of delay in the westbound direction. The headways for Muni transit lines operating on this segment of Ocean Avenue range from 7.5 minutes to 30 minutes. The total added delay of 159 seconds (2.7 minutes) would be less than the

transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with implementation of combined Projects 5-9 and 5-10 Option 2 under 2025 Cumulative plus Project conditions.

Since there are no significant transit impacts under Existing plus Project and 2025 Cumulative plus Project conditions for either Option 1 or Option 2 of Projects 5-9 and 5-10 combined, there would be no significant transit impact from individual Project 5-9.

PARKING

Option 1 would remove a total of approximately 50 on-street parking spaces on Ocean Avenue between San Jose and Lee Avenues and Option 2 would remove a total of approximately 90 on-street parking spaces on Ocean Avenue between San Jose and Lee Avenues. Parking occupancy is relatively high in this area. Removal of 50 to 90 parking spaces would increase parking occupancy rates.

San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

In San Francisco, parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social effects need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact. (CEQA Guidelines Section 15131(a)). The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor.

Project 5-9 is in the immediate proximity of the Balboa Park BART Station and transit service is convenient and frequent; thus, loss of parking would potentially cause a shift of transportation modes away from private automobiles and to transit. There may be secondary impacts of drivers seeking a parking space further away from Ocean Avenue. Therefore, there would be no significant parking impacts as a result of either Option 1 or Option 2 for Project 5-9.

PEDESTRIAN

Pedestrian volumes are generally low east of City College, but substantially higher in the vicinity City College of San Francisco between Phelan and Lee Avenues particularly during the morning and midday periods. However, there would be no changes in sidewalk width or crosswalk layout, and the interactions between pedestrians and bicyclists would not change as a result of either Option 1 or Option 2. Therefore, there would be no pedestrian impacts as a result of Project 5-9 with either Option 1 or Option 2.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use with Option 1. Option 2 would also provide bicycle lanes in conjunction with sharrows to the existing bicycle route on Ocean Avenue from the I-280 freeway southbound off-ramp to Lee Avenue. The installation of sharrows would increase the motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone'. Hence, Project 5-9 with either Option 1 or Option 2 would not have a significant impact on cyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

Most of the land uses (City College of San Francisco, Muni Balboa Park Station, and Balboa Park (BART) have little demand for on-street yellow commercial freight loading spaces. There were

no double-parked vehicles or significant loading needs observed in this segment of Ocean Avenue. In addition, there would not be any on-street yellow commercial freight loading spaces removed as part of Project 5-9 with either Option 1 or Option 2. Therefore, there would be no loading impacts as a result of Project 5-9 with either Option 1 or Option 2.

PROJECT 5-10: PHELAN AVENUE BICYCLE LANES, JUDSON AVENUE TO OCEAN AVENUE

There are two options for this segment of Phelan Avenue.

- **Option 1**

  Option 1 would add a Class II bicycle lane in each direction between Judson and Ocean Avenues. The Project would remove a travel lane in each direction along Phelan Avenue between Ocean and Judson Avenues, except the lane configuration at the southbound approach to Ocean Avenue would not change. The Project would also add a raised median and sidewalk bulb-outs at the crosswalks between South Cloud Circle and Judson Avenue. There would be no parking removal.

- **Option 2**

  Option 2 would add a Class II bicycle lane in each direction and remove on-street parking on both sides of Phelan Avenue between Ocean and Judson Avenues. 140 parking spaces and 30 motorcycle spaces total would be removed. There would be no lane reduction.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

One study intersection is included for the AM Peak Hour for Project 5-10.

Intersection 41: Phelan Avenue/Geneva Avenue/Ocean Avenue

The Phelan Avenue/Geneva Avenue/Ocean Avenue intersection is common to Projects 5-9 and 5-10 within the Cluster 5 area. For Project 5-9, the lane configuration at the intersection remains the same as under Existing (No Project) conditions for Option 2. However, Project 5-9 reduces the capacity in the eastbound direction on Ocean Avenue for this intersection. Under Project 5-10, no lane configuration changes are proposed for both Options 1 and 2 and the geometry remains the same as Existing (No Project) conditions. Since Project 5-10 does not result in any lane configuration changes, the LOS analysis for Project 5-9 would be the same as Projects 5-9

and 5-10 combined. The analysis for Projects 5-9 and 5-10 combined is provided for the AM peak hour.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 5-9 and 5-10 combined – AM Analysis
  Please see the analysis of impacts for the combined projects under Project 5-9 on p. V.A.3-485.

  Existing and Existing plus Project Conditions for Projects 5-9 and 5-10 combined – PM Analysis
  Please see the analysis of impacts for the combined projects under Project 5-9 on p. V.A.3-486.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-9 and 5-10 combined – AM Analysis
  Please see the analysis of impacts for the combined projects under Project 5-9 on p. V.A.3-486.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-9 and 5-10 combined – PM Analysis
  Please see the analysis of impacts for the combined projects under Project 5-9 on p. V.A.3-487.

- **Option 2**

  Existing and Existing plus Project Conditions for Projects 5-9 and 5-10 combined – AM Analysis
  Please see the analysis of impacts for the combined projects under Project 5-9 on p. V.A.3-489.

  Existing and Existing plus Project Conditions for Projects 5-9 and 5-10 combined – PM Analysis
  Please see the analysis of impacts for the combined projects under Project 5-9 on p. V.A.3-489.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-9 and 5-10 combined – AM Analysis
  Please see the analysis of impacts for the combined projects under Project 5-9 on p. V.A.3-489.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-9 and 5-10 combined – PM Analysis

Please see the analysis of impacts for the combined projects under Project 5-9 on p. V.A.3-489.

TRANSIT

Muni bus lines 36 and 43 operate along Phelan Avenue between Ocean Avenue and Judson Avenue, with approximately nine buses per hour each way during the AM and PM peak periods.

There are currently three northbound and three southbound Muni bus stops between Ocean Avenue and Judson Avenue. The three southbound bus stops on the west side of Phelan Avenue are 80 to 100 feet long within 18 to 19 feet curb lane. The two northbound bus stops between South Cloud Circle and Judson Avenue, which are 100 and 70 feet long, are located on the far side of the crosswalks. Field observations[17] indicate that most buses pull into the far side stops parallel to the curb, but some buses protrude into a portion of the travel lane while boarding passengers. The northbound bus stop on the nearside of South Cloud Circle is 70 feet long, and there is on-street parking before this stop. Buses usually pull in at an angle to the curb encroaching into the travel lane because the length of the bus stop is insufficient for nearside operation. The current dimensions at this bus stop are particularly tight with an approximate nine-foot curb lane next to a nine-foot, six-inch outside lane. Buses sometimes encroach into the travel lane, but bicyclists typically follow behind the buses in slow-moving traffic, especially during the midday and PM peak periods. Transit and bicycle volumes in this corridor are relatively moderate, conflicts between buses and bicyclists are relatively minimal.

The southbound bus stops have similar dimensions and characteristics as those of the northbound bus stops (two far side and one mid-block), and field observation shows that interactions between buses and bicyclists are very similar to those reported in the northbound direction.

Both options would remove one northbound and one southbound bus stop mid-block between South and North Cloud Circle, which would reduce the potential conflict points between buses and bicyclists from three to two per direction. Both options would also relocate the northbound bus stop on the nearside of South Cloud Circle to the far side of the parking lot driveway and the southbound bus stop on the nearside of Judson Avenue to the far side of the parking lot entrance. A benefit for relocating these bus stops to the far side would be the additional

[17] Field surveys were conducted by CHS Consulting on Friday, October 26, 2007 during the PM peak.

transition space at the crosswalks for buses to stop within the bus zone without protruding into the proposed bicycle lane or travel lane.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 5-9 and 5-10 combined
  Please see the analysis of impacts for the combined projects under Project 5-9 on p. V.A.3-485.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-9 and 5-10 combined
  Please see the analysis of impacts for the combined projects under Project 5-9 on p. V.A.3-486.

- **Option 2**

  Existing and Existing plus Project for Projects 5-9 and 5-10 combined
  Please see the analysis of impacts for the combined projects under Project 5-9 on p. V.A.3-489.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 5-9 and 5-10 combined
  Please see the analysis of impacts for the combined projects under Project 5-9 on p. V.A.3-489.

Project Conditions for Projects 5-10 alone
Option 1 would remove a travel lane in each direction between Ocean Avenue and Judson Avenue. However, at the intersection with Ocean Avenue, the number of approach lanes would be the same. Consequently, additional Muni bus delay at this intersection would be approximately one second under Existing plus Project conditions and approximately two seconds for 2025 Cumulative plus Project conditions for Option 1. The section between Ocean Avenue and Judson Avenue would require buses and other vehicles to share a single travel lane. Phelan Avenue has approximately 630 vehicles in the southbound direction and 480 vehicles in the northbound direction. One travel lane should be able to accommodate this volume without significant backups. In addition, the curb lane adjacent to the two bus stops south of South Cloud Circle would be increased from nine feet to 11 feet wide with the removal of one travel lane, which would allow buses and bicycles to share the road more comfortably. Therefore, there would be not significant transit impacts with implementation of Project 5-10 Option 1.Under Option 2, the number of travel lanes would remain the same (two lanes in each direction), but on-street parking would be removed. Under this option, the proposed bicycle lanes would disappear wherever there are bus stops. Bus stops would be located adjacent to a nine-foot lane in the northbound direction and a 10-foot lane in the southbound direction. If buses do not completely pull into the stop, they would encroach upon the curb lane and make it unusable. To pass stopped buses on the left, bicyclists would use the remaining portion of the

curb lane or use the inside lane. This situation does not differ from Existing conditions. Therefore, there would not be significant transit impacts with implementation of Project 5-10 Option 2.

PARKING

Option 1 would not remove on-street parking spaces; therefore there would be no impact with implementation of Project 5-10 Option 1.

Option 2 would remove a total of approximately 140 parking spaces and 30 motorcycle parking spaces on both sides of Phelan Avenue between Judson and Ocean Avenues. Because on-street parking occupancy in this corridor is generally high when City College of San Francisco is in session, many cars would be forced to find parking in nearby streets and would potentially increase parking occupancy in the neighboring residential area.

San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

In San Francisco, parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social effects need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact. (CEQA Guidelines Section 15131(a).) The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor. Therefore, there would be no significant parking impacts with implementation of Project 5-10 Option 2.

PEDESTRIAN

- **Option 1**
  Option 1 would add sidewalk bulb-outs at the crosswalks at South Cloud Circle on the west side, at the mid-block path on both sides, and at the parking lot entrance on the east side. The bulb-outs would reduce the pedestrian crossing distance, and the higher visibility of pedestrians at the bulb-outs would decrease their potential conflicts with vehicles and bicyclists. Under Option 1, the existing crosswalks at South Cloud Circle and the parking lot entrance would be removed and would be replaced with three raised crosswalks at South Cloud Circle (40 feet wide); the parking lot entrance (50 feet wide), and at North Cloud Circle. Project 5-10 Option 1 would include additional pedestrian crossings. The use of raised crosswalks instead of traditional at-grade crosswalks would provide increased pedestrian visibility and would require motor vehicles to travel at slower speeds. Therefore, Project 5-10 Option 1 would not result in significant impacts to pedestrians, but could have the beneficial effect of increasing pedestrian accessibility and safety.

- **Option 2**
  Under Option 2, there would be no changes to sidewalks, but this option would include a raised crosswalk at North Cloud Circle. The raised crosswalk at this location would improve pedestrian crossing safety for the reasons stated above. Therefore, Project 5-10 Option 2 would not result in significant impacts to pedestrians, but could have the beneficial effect of increasing pedestrian accessibility and safety.

BICYCLE

Under both options, the installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. Under Option 2, bicyclists would have an additional benefit by removing the potential for "" of bicyclists with the removal of on-street parking. Therefore, Project 5-10 with either Option 1 or Option 2 would not result in a significant impact to

bicyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Phelan Avenue currently has campus buildings on the east side and a surface parking lot on the west side. These land uses do not have an on-street loading demand that would conflict with bicyclists in this area; there were no double-parked trucks or significant loading needs observed[18] on this segment of Phelan Avenue. No changes would occur to loading facilities as a result of either Option 1 or Option2 of Project 5-10; therefore, there would be no loading impacts with implementation of either Option 1 or Option 2 of Project 5-10.

PROJECT 5-11: POTRERO AVENUE AND BAYSHORE BOULEVARD BICYCLE LANES, 25TH STREET TO CESAR CHAVEZ STREET

The Project would add a southbound Class II bicycle lane between 25th and Cesar Chavez Streets. The proposed bicycle lanes would extend the existing bicycle lanes on Potrero Avenue just south of 25th Street. In the northbound direction, travel lanes would be narrowed to add a curbside Class II bicycle lane along Bayshore Boulevard from approximately 200 feet south of the intersection of Potrero Avenue and the US 101 off-ramp to this intersection. A northbound Class II bicycle lane exists on Potrero Avenue, beginning approximately 300 feet south of 25th Street. This northbound Class II bicycle lane would be extended southerly to the intersection of Potrero Avenue and the US 101 off-ramp by removing approximately 20 parking spaces. In the southbound direction, a Class II bicycle lane exists on Potrero Avenue, but ends approximately 120 feet south of 25th Street. This southbound Class II bicycle lane would be extended southerly to Cesar Chavez Street by narrowing travel lanes. No parking removal would be required to extend the southbound Class II bicycle lane.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus line 9 runs in each direction, but only for a short distance in this segment. Line 9 has approximately six buses per hour each way during the AM peak period and eight buses per hour each way during the PM peak period. There is one northbound and one southbound bus stop on the south side of 25th Street. Transit volumes are moderate in this segment.

[18] Field surveys were conducted by CHS Consulting on Friday, October 26, 2007 during the midday.

The 11-foot wide travel lane for buses adjacent to the proposed bicycle lanes would allow bus operators sufficient space to avoid conflicts with bicyclists especially at the bus stops. Furthermore, as experienced with the implemented bicycle lanes along the section of Potrero Avenue north of 25th Street, the proposed bicycle lanes would not affect transit capacity, transit operation, or travel time. Therefore, there would be no significant transit impacts with implementation of Project 5-11.

PARKING

Project 5-11 would remove approximately 20 on-street parking spaces on the east side of Potrero Avenue between 25th Street and the US 101 off-ramp. On-street parking occupancy in this area is generally moderate; the removal of 20 on-street parking spaces would result in an increase in the occupancy rate.

In San Francisco, parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact under CEQA, but rather a social effect. The loss of parking may cause potential indirect physical effects, which would include cars circling and looking for a parking space in neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to some drivers, aware of constrained parking conditions in a given area, shifting travel modes. Hence, any secondary environmental impacts that may result from a shortfall in parking would be minor. Therefore, any net reduction in on-street parking supply would not result in significant parking impacts. Thus, there would not be a significant parking impact with implementation of Project 5-11.

PEDESTRIAN

Pedestrian volumes are generally low, and there would be no change in sidewalk width or crosswalk layout. The interactions between pedestrians and bicyclists would not change as a result of Project 5-11. Therefore, there would be no pedestrian impacts with implementation of Project 5-11.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel functioning as the existing lanes on Potrero Avenue north of 25th Street. Therefore, Project 5-11 would not result in a significant impact to bicyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Potrero Avenue has a mix of recreational, residential, and commercial uses; the loading demand is very low and can be accommodated by the available on-street parking spaces. No on-street parking or yellow commercial loading spaces would be removed with implementation of Project 5-11. Therefore, there would be no loading impacts with implementation of Project 5-11.

PROJECT 5-12: SAGAMORE STREET AND SICKLES AVENUE BICYCLE LANES, ALEMANY BOULEVARD TO BROTHERHOOD WAY

There are two options for this segment of Sagamore Street/Sickles Avenue.

Both Options 1 and 2 would add a westbound Class II bicycle lane along Sagamore Street between Plymouth Avenue and Brotherhood Way and extend the existing eastbound bicycle lane eastward to the San Jose Avenue intersection. Both options would add a southbound Class II bicycle lane along Sickles Avenue between Sagamore Street and Alemany Boulevard. Both options would also remove eight on-street parking spaces on the south side of Sagamore Street at the eastward approach to Capitol Avenue.

- **Option 1**

  Option 1 would remove an approximately 130-foot section of the eastbound travel lane on Sagamore Street approaching San Jose Avenue and an approximately 250-foot section of the westbound travel lane between Capitol and Orizaba Avenues. This option would convert pull-in angled parking into back-in angled parking on the north side of Sagamore Street between Orizaba and Capitol Avenues but would not result in any parking loss.

- **Option 2**

  Option 2 would add westbound Class II bicycle lane from Capitol Avenue to Orizaba Avenue by changing the parking layout and removing 15 parking spaces on the north side of Sagamore Street and creating a westbound right turn pocket approaching Orizaba Avenue. In the eastbound direction from Orizaba Avenue to Alemany Boulevard a Class II bicycle lane would be added by removing 15 parking spaces on the south side of Sagamore Street

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour.

PM Peak Hour

One study intersection is included for the PM Peak Hour for Project 5-12.

Intersection 35: Alemany Boulevard/Sickles Avenue

- **Option 1**

  Existing and Existing plus Project Conditions
  Under Existing conditions, this intersection operates at LOS D with 41.2 seconds of delay. The Alemany Boulevard/Sickles Avenue intersection would operate satisfactorily at LOS D, with 42.1 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration would be modified from one through lane, one shared through-left turn lane, and one shared through-right turn lane to one shared through-left turn lane and one through-right turn lane. Due to the reduction of capacity in the eastbound direction, there would be an increase in delay along this approach. However, the average intersection delay would increase by 0.9 seconds, compared to Existing conditions. Therefore, Project 5-12 Option 1 would not cause a significant traffic impact to the Alemany Boulevard/Sickles Avenue intersection under Existing plus Project conditions. Table V.5-32, p. V.A.3-505, summarizes these results.

TABLE V.5-32
CLUSTER 5 – PROJECT 5-12
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS	Average Delay[a]	LOS
35.	Alemany Boulevard/Sickles Avenue	41.2	D	42.1	D	41.2	D

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Alemany Boulevard/Sickles Avenue intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, the Alemany Boulevard/Sickles Avenue

intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. However, the southbound critical movements at Alemany Boulevard/Sickles Avenue would not deteriorate; a significant impact would not occur at this intersection with the implementation for Project 5-12 Option 1. Table V.5-33, p. V.A.3-506, summarizes these results.

TABLE V.5-33
CLUSTER 5 – PROJECT 5-12
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
35.	Alemany Boulevard/Sickles Avenue	>80	**F**	>80	**F**	>80	**F**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

- **Option 2**

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS D with 41.2 seconds of delay. The Alemany Boulevard/Sickles Avenue intersection would operate satisfactorily at LOS D, with 41.2 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Therefore, Project 5-12 Option 2 would not cause a significant impact to the Alemany Boulevard/Sickles Avenue intersection under Existing plus Project conditions. Table V.5-32, p. V.A.3-505, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Alemany Boulevard/Sickles Avenue intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at this intersection with the implementation of Project 5-12 Option 2. Table V.5-33 on p. V.A.3-506 summarizes these results.

TRANSIT

Muni bus line 88 operates along the full length of Project 5-12 westbound between Alemany Boulevard and Brotherhood Way in the PM peak only with approximately three buses per hour. It also runs in both directions for the short distance Alemany Boulevard and San Jose Avenue with three buses westbound in the PM peak and three buses eastbound during the AM peak. Muni bus line 54 runs in both directions along Sagamore Street between Plymouth Avenue and Brotherhood Way with approximately three buses per hour each way during the AM and PM peak periods.

There is one Muni southbound bus stop on Sickles Avenue between San Jose Avenue and Alemany Boulevard. This Muni bus stop would be in the proposed bicycle lane for both Option 1 and Option 2. When a Muni bus stops, bicyclists would have to wait behind it until it completes loading and unloading passengers or pass the bus to the left using the adjacent travel lane. This maneuver is no different from what currently occurs without the bicycle lane. Southeastbound bus volumes for Muni line 88 are low (three buses every hour), so buses would not frequently interrupt bicycle flow on the proposed bicycle lane.

Therefore, for both Option 1 and Option 2 there would be no significant impacts on transit capacity, transit operation, and travel time, as well as on the interactions between buses and bicyclists with either Option 1 or Option 2 of Project 5-12.

PARKING

- **Option 1**
  Option 1 would remove approximately eight on-street parking spaces on the south side of Sagamore Street at the nearside of Capitol Avenue and convert pull-in angled parking into back-in angled parking between Orizaba and Capitol Avenues. Changing pull-in to back-in angled parking would potentially benefit bicyclists by improving approaching bicyclists' visibility to motor vehicle drivers and other traffic, both when drivers are entering and exiting a parking stall. When entering a parking stall by backing in, drivers would be looking backwards towards oncoming traffic and would be more aware of approaching bicyclists. Bicyclists would also be better able to see vehicles backing into the parking spaces and, therefore, would have ample warning to safely maneuver around these vehicles. When exiting a parking stall, drivers would face the street with a better view of oncoming traffic in comparison to drivers backing out of the pull-in parking stall, whose view of oncoming traffic may be obscured by adjacent parked vehicles.

- **Option 2**
  Option 2 would remove a total of approximately 28 on-street parking spaces on portions of Sagamore Street on the south side approaching Capitol Avenue and San Jose Avenue and on the north side approaching Orizaba Avenue. Approximately seven parking spaces would also be lost as a result of converting pull-in angled parking on the north side of Sagamore between Orizaba Avenue and Capitol Avenue to parallel parking. Parking occupancy in this area is generally moderate. The loss of eight parking spaces under Option 1 and 28 parking spaces under Option 2 can be accommodated with the existing parking supply. Therefore, there would be no significant parking impacts with either Option 1 or Option 2 for Project 5-12. In addition, there may be a reduction in conflicts may result between bicyclists and angle-parkers with the replacement of pull-in angle parking with back-in angle parking.

PEDESTRIAN

Pedestrian volumes in this area are generally low, and there would be no changes in sidewalk width or crosswalk layout under either Option 1 or Option 2. The current interactions between pedestrians and bicyclists would not change as a result of either option. Therefore, there would be no pedestrian impacts with either Option 1 or Option 2 of Project 5-12.

BICYCLE

Under both Option 1 and Option 2, bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. The proposed back-in angled parking under Option 1 would potentially benefit bicyclists by improving the driver's visibility of approaching bicyclists and other vehicles both when entering and exiting the stall. When entering the stall by backing in, the driver would be looking towards oncoming traffic and would be more aware of approaching bicyclists. When exiting the stall, the driver is facing the street with a better view of traffic in the travel lane in comparison to drivers backing out of the pull-in stall, whose view of oncoming traffic may be obscured by an adjacent parked vehicle. Hence, neither Option 1 nor Option 2 of Project 5-12 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Sagamore Street is mostly residential with no on-street loading demands that would conflict with bicycles. No double-parked trucks or significant loading needs were observed on this segment of Sagamore Street, and there would be no changes in on-street or off-

street loading spaces under either option. Therefore, there would be no loading impacts with either Option 1 or Option 2 of Project 5-12.

PROJECT 5-13: SAN BRUNO AVENUE BICYCLE LANES, PAUL AVENUE TO SILVER AVENUE

Project 5-13 would involve moving a portion of the existing Bicycle Route #25 from Bayshore Boulevard onto San Bruno Avenue. Segment I of San Bruno Avenue extends between Paul Avenue and Silver Avenue. There are two options for this segment.

- **Option 1**
  Option 1 would add a Class II bicycle lane in each direction between eight-foot wide parking and a 10-foot wide travel lane.
- **Option 2**
  Option 2 would add a Class II bicycle lane in each direction between seven-foot wide parking and an 11-foot wide travel lane. Both options would remove approximately 21 on-street parking spaces between Silver Avenue and Felton Street.

Segment II would extend from Silliman Street to Silver Avenue and includes one design option:

Class II bicycle lanes would be installed in both directions along Segment II by removing 22 parking spaces.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus lines 9, 9X, and 9AX run along this segment of San Bruno Avenue, with approximately 12 buses in each direction per hour during the AM peak period and approximately 14 buses in each direction per hour during the PM peak period. Muni bus lines 9X and 9AX run only in the southbound direction between Silver Avenue and Bacon Street. Transit volumes are relatively high, but bicycle volumes are low along this segment of San Bruno Avenue.

Currently, there are frequent turning movements at intersections and to/from driveways along this section, and the slow speed of traffic and Muni would be expected to continue even after the implementation of either option of Project 5-13. Since there would be no capacity reduction

or additional bus/bicycle conflicts, no significant transit impacts would be caused by the implementation of either Option 1 or Option 2 of Project 5-13.

PARKING

- **Option 1**
  Option 1 would remove a total of approximately 22 on-street parking spaces. 12 spaces on the east side of San Bruno Avenue between Silver and Thornton Streets and 10 loading spaces on the west side between Silver and Silliman Streets.

- **Option 2**
  Option 2 would remove 12 spaces on the east side of San Bruno Avenue between Silver and Thornton Streets. Parking occupancy along San Bruno Avenue is high, especially along the northern segment of the street where most commercial uses exist. The loss of 12 on-street parking spaces would cause some vehicles to park further away in the adjacent residential neighborhood, increasing parking occupancy rates along these residential streets. In San Francisco, parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact under CEQA, but rather a social effect. The loss of parking may cause potential indirect physical effects, which would include cars circling and looking for a parking space in neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to some drivers, aware of constrained parking conditions in a given area, shifting travel modes. Hence, any secondary environmental impacts that may result from a shortfall in parking would be minor. Therefore, any net reduction in on-street parking supply would not result in significant parking impacts. Hence, there would be no significant parking impacts with either Option 1 or Option 2 for Project 5-13.

PEDESTRIAN

Pedestrian activity is generally moderate along the west side of San Bruno Avenue, but instances of pedestrian crossings are minimal. There would be no changes in sidewalk width or crosswalk layout under either option. Therefore, there would be no pedestrian impacts with either Option 1 or Option 2 of Project 5-13.

BICYCLE

Under both options, the installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. Therefore, neither Option 1 nor Option 2 of Project 5-13 would result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

On-street yellow commercial freight loading spaces are available along San Bruno Avenue. However, violations were observed[19] forcing trucks to double-park in the curbside travel lane. The impact on loading from Project 5-13 would result from the removal of 22 on-street parking spaces including 10 yellow commercial freight loading spaces under both Option 1 and Option 2.

The loss of 10 on-street yellow commercial freight loading spaces on the west side of San Bruno Avenue would potentially cause significant impacts on trucks making deliveries to the adjacent businesses. Without available parking for loading, drivers would double-park in the travel lane blocking both traffic and Muni circulation or park in the bicycle lane, blocking bicycle circulation. The City of San Francisco Transportation Code Section 38N allows vehicles to temporarily block a bicycle lane during weekday midday, but not during the AM (7:00 a.m. to 9:00 a.m.) and PM (4:00 p. m. to 6:00 p. m.) peak periods. However, trucks making deliveries during the peak periods would need to park on the side streets and use a hand truck to make deliveries or illegally park in the bicycle lanes. Therefore, there would be a significant loading impact (Significant Impact TR-P5-13a, TR-P5-13b, TR-P5-13c, and TR-P5-13d) with implementation of Project 5-13 with either Option 1 or Option 2 under Existing plus Project and Cumulative plus Project conditions.

Significant Impact TR-P5-13a:

Project 5-13 would result in a significant impact to loading with implementation of Option 1 under Existing plus Project conditions.

Significant Impact TR-P5-13b:

Project 5-13 would result in a significant impact to loading with implementation of Option 2 under Existing plus Project conditions.

Significant Impact TR-P5-13c:

Project 5-13 would result in a significant impact to loading with implementation of Option 1 under 2025 Cumulative plus Project conditions.

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[19] Field surveys were conducted by CHS Consulting on Friday, October 26, 2007 during the midday.

Significant Impact TR-P5-13d:

Project 5-13 would result in a significant impact to loading with implementation of Option 2 under 2025 Cumulative plus Project conditions.

CLUSTER 5: SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impact TR-P5-4a:

Under Existing conditions, the Bayshore Boulevard /Jerrold Avenue/US 101 Off-Ramp intersection would operate at LOS E with 76.8 seconds of delay. However, under Existing plus Project conditions for Option 1, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the northbound direction on Bayshore Boulevard. Because the northbound critical movement deteriorates for Option 1 from LOS D under 2025 Cumulative conditions to LOS F with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at this intersection with the implementation of Project 5-4.

M-TR-P5-4a:

No feasible mitigation measures have been identified for the Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the Bayshore Boulevard/Alemany Boulevard/Industrial Street intersection with the implementation of Project 5-4.

Significant Impact TR-P5-4b:

The intersection of Bayshore Boulevard/Oakdale Avenue would operate at LOS E under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate at LOS D with 42.9 seconds of delay. However, under 2025 Cumulative plus Project conditions for Option 1, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the northbound direction. Because the northbound critical movement deteriorates for Option 1 from LOS D under 2025 Cumulative conditions to LOS F with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at this intersection with the implementation of Project 5-4.

M-TR-P5-4b:

No feasible mitigation measures have been identified for the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection with the implementation of Project 5-4.

Significant Impact TR-P5-4c:

Under Existing conditions, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate at LOS E with 58.9 seconds of delay. However, under Existing plus Project conditions for Option 1, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the northbound direction. Because the northbound critical movement deteriorates for Option 1 from LOS D under 2025 Cumulative conditions to LOS F with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection with the implementation of Project 5-4.

M-TR-P5-4c:

No feasible mitigation measures have been identified for the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection with the implementation of Project 5-4.

Significant Impact TR-P5-4d:

Under 2025 Cumulative conditions, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate at LOS F with more than 80 seconds of delay. Under 2025 Cumulative plus Project conditions for Option 1, the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the northbound direction on Bayshore Boulevard. Because the northbound critical movement deteriorates for Option 1 with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection with the implementation of Project 5-4.

M-TR-P5-4d:

No feasible mitigation measures have been identified for the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Bayshore Boulevard/Jerrold Avenue/US 101 Off-Ramp intersection with the implementation of Project 5-4.

Significant Impact TR-P5-4e:

A significant loading impact would occur as a result of Project 5-4.

Under 2025 Cumulative conditions, the Bayshore Boulevard/Oakdale Avenue intersection would operate at LOS C with a delay of 34.6 seconds. However, under 2025 Cumulative plus Project conditions for Option 1, the Bayshore Boulevard/Oakdale Avenue intersection would operate at LOS E with a delay of 63.1 seconds as a result of the lane configuration changes along the northbound and southbound approaches of Bayshore Boulevard. Because the northbound and southbound critical movements deteriorate for Option 1 from LOS D under 2025 Cumulative conditions to LOS F with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Bayshore Boulevard/Oakdale Avenue intersection with the implementation of Project 5-4.

M-TR-P5-4e:

It is proposed that five seconds of green time be added to the northbound Bayshore Boulevard approach and five seconds of green time be reduced from the westbound Oakdale Avenue approach. This would improve the Bayshore Boulevard/Oakdale Avenue intersection operations from LOS E to LOS D, with 54 seconds of delay (a reduction of 9.1 seconds of average delay). Thus, this mitigation measure would reduce the project impacts on the Bayshore Boulevard/Oakdale Avenue intersection to a less than significant level. Table V.5-34, p. V.A.3-515, summarizes these results.

TABLE V.5-34
CLUSTER 5 – PROJECT 5-4
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

	Intersection	2025 Cumulative plus Project Option 1		2025 Cumulative plus Project Option 1 with Mitigation Measures	
		Average Delay[a]	LOS[b]	Average Delay[a]	LOS
24.	Bayshore Boulevard/Oakdale Avenue	**63.1**	**E**	54.0	D

Source: Wilbur Smith Associates, October 2008

Notes:
a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P5-4f (Projects 5-2 and 5-4 combined):

Muni bus lines 9, 9X, 9AX and SamTrans 292 would experience significant delays under 2025 Cumulative plus Project conditions for Projects 5-2 and 5-4 combined Option 1.

M-TR-P5-4f (Projects 5-2 and 5-4 combined):

The implementation of Option 1 under 2025 Cumulative plus Project conditions for Projects 5-2 and 5-4 combined would add approximately 417 seconds (7.0 minutes) of total delay for Muni bus lines 9, 9X, 9AX and SamTrans 292. With mitigation as described above in Mitigation Measure 5.4e, transit delay would be reduced to approximately 70 seconds (1.2 minutes) of delay northbound and 13 seconds of delay southbound. The total added delay of approximately 83 seconds (1.4 minutes) would be less than the transit delay threshold of 6 minutes. Therefore, impacts to transit for Muni bus lines 9, 9X, 9AX and SamTrans 292 for Projects 5-2 and 5-4 with Option 1 combined under 2025 Cumulative plus Project conditions would be reduced to a less than significant level.

Significant Impact TR-P5-4g:

Muni bus lines 9, 9X, 9AX and SamTrans 292 would experience significant delays under 2025 Cumulative plus Project conditions for Project 5-4 only with Option 1.

M-TR-P5-4g:

The implementation of Option 1 under 2025 Cumulative plus Project conditions for Project 5-4 only would add approximately 417 seconds (7.0 minutes) of total delay for Muni bus lines 9, 9X, 9AX and SamTrans 292. With mitigation as described above in Mitigation Measure 5.4e, transit

delay would be reduced to approximately 70 seconds (1.2 minutes) of delay northbound and 13 seconds of delay southbound. The total added delay of approximately 83 seconds (1.4 minutes) would be less than the transit delay threshold of 6 minutes. Therefore, impacts to transit for Muni bus lines 9, 9X, 9AX and SamTrans 292 for Project 5-4 only with Option 1 combined under 2025 Cumulative plus Project conditions would be reduced to a less than significant level.

Significant Impact TR-P5-4h:

A significant loading impact would occur as a result of Project 5-4 Option 2 under Existing plus Project conditions.

M-TR-P5-4h:

No feasible mitigation measures have been identified. Therefore, a significant loading impact would occur on the Bayshore Boulevard between Cesar Chavez and Industrial Streets with implementation of Project 5-4 Option 2 under Existing plus Project conditions.

Significant Impact TR-P5-4i:

A significant loading impact would occur as a result of Project 5-4 Option 2 under 2025 Cumulative plus Project conditions.

M-TR-P5-4i:

No feasible mitigation measures have been identified. Therefore, a significant loading impact would occur on Bayshore Boulevard between Cesar Chavez and Industrial Street with implementation of Project 5-4 Option 2 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P5-5a:

The intersection of Evans Street/Cesar Chavez Street would operate at LOS F under Existing plus Project conditions for Option 1.

Under Existing conditions, the Evans Avenue/Cesar Chavez Street intersection would operate at LOS D with 47.4 seconds of delay. However, under Existing plus Project conditions for Option 1, the Evans Avenue/Cesar Chavez Street intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound direction on Cesar Chavez Street. Because the eastbound critical movement deteriorates for Option 1 from LOS D under Existing conditions to LOS F with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at the Evans Street/Cesar Chavez Street intersection with the implementation of Project 5-5.

M-TR-P5-5a:

No feasible mitigation measures have been identified for the Evans Avenue/Cesar Chavez Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the Evans Avenue/Cesar Chavez Street intersection with the implementation of Project 5-5.

Significant Impact TR-P5-5b:

The intersection of Evans Street/Cesar Chavez Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Evans Avenue/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.37. However, under 2025 Cumulative plus Project conditions for Option 1, the Evans Avenue/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.83 as a result of the lane configuration changes in the eastbound direction on Cesar Chavez Street. Because the eastbound critical movement deteriorates for Option 1 with a corresponding deterioration in the V/C ratio for this movement, a significant impact would occur at the Evans Avenue/Cesar Chavez Street intersection with the implementation of Project 5-5.

M-TR-P5-5b:

No feasible mitigation measures have been identified for the Evans Avenue/Cesar Chavez Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant impact would occur at the Evans Avenue/Cesar Chavez Street intersection with the implementation of Project 5-5.

Significant Impact TR-P5-6a:

The intersection of Mission Street/Cesar Chavez Street would operate at LOS E under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Mission Street/Cesar Chavez Street intersection would operate at LOS E with 60.6 seconds of delay. However, under 2025 Cumulative plus Project conditions for Option 1, the Mission Street/Cesar Chavez Street intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound direction on Cesar Chavez Street. Because the southbound critical movement deteriorates for Option 1 under 2025 Cumulative conditions to LOS F with a corresponding deterioration in the V/C ratio for this movement, a significant impact would

occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

M-TR-P5-6a:

Lane configuration adjustments to the eastbound and westbound direction on Cesar Chavez Street would improve LOS and reduce the delay at the Mission Street/Cesar Chavez Street intersection from LOS F to LOS E. The removal of on-street parking along Cesar Chavez Street (applying either Option 1 or 2 per proposed possible Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined) is proposed which would provide an additional through lane along the eastbound and westbound Cesar Chavez Street approaches. This additional capacity will help reduce the delay and improve the V/C ratio by 9 percent (from 1.31 to 1.18). However, because of the uncertainty of the feasibility of this mitigation measure, a significant impact may occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6. Table V.5-35, p. V.A.3-518 summarizes these results.

TABLE V.5-35
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY AM PEAK HOUR

		2025 Cumulative plus Project (Option 1)		2025 Cumulative plus Project Option 1 with Mitigation Measures	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS
28.	Mission Street/Cesar Chavez Street	>80	F	68.3	E

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P5-6b:

The intersection of Mission Street/Cesar Chavez Street would operate at LOS E under 2025 Cumulative plus Project conditions for Option 2.

The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS E, with 60.6 seconds of average delay under 2025 Cumulative conditions. The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS E, with 73.5 seconds of delay under 2025 Cumulative plus Project conditions with Option 2. Because the westbound critical movements either deteriorate or will operate at an unacceptable LOS E, with more than 55 seconds of average delay under 2025 Cumulative plus Project conditions for Option 2, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with implementation of Project 5-6.

M-TR-P5-6b:

Lane configuration adjustments to the eastbound and westbound directions on Cesar Chavez Street would improve LOS and reduce the delay at the Mission Street/Cesar Chavez Street intersection. The removal of on-street parking along Cesar Chavez Street (applying either Option 1 or 2 per proposed possible Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined) is proposed which would provide an additional through lane along the eastbound and westbound Cesar Chavez Street approaches. This additional capacity will help reduce the delay and improve the V/C ratio by 23 percent (from 1.17 to 0.90). However, because of the uncertainty of the feasibility of this mitigation measure, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6. Table V.5-36, p. V.A.3-519 below summarizes these results.

TABLE V.5-36
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 2		2025 Cumulative plus Project Option 2 with Mitigation Measures	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
28.	Mission Street/Cesar Chavez Street	**>80**	**F**	57.3	E

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P5-6c:

The intersection of Guerrero Street/Cesar Chavez Street would operate at LOS F under Existing plus Project conditions for Option 1.

Under Existing conditions, the Guerrero Street/Cesar Chavez Street intersection operates at LOS D with 52.5 seconds of delay. However, under Existing plus Project conditions for Option 1, the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes along the eastbound and westbound approaches of Cesar Chavez Street. Because the southbound, eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact may occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

M-TR-P5-6c:

Lane configuration adjustments to the westbound direction of Cesar Chavez Street would improve LOS and reduce the delay for the Guerrero Street/Cesar Chavez Street. The removal of on-street parking along Cesar Chavez Street (applying either Option 1 or 2 per proposed possible Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined) is proposed which would provide an additional through lane along the westbound Cesar Chavez Street approach. This lane adjustment would decrease the delay and improve the V/C ratio by 28 percent (from 1.23 to 0.88) and improve LOS from F to D. However, because of the uncertainty of the feasibility of this mitigation measure, a significant impact may occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6. Table V.5-37, p. V.A.3-522 below summarizes these results.

Significant Impact TR-P5-6d:

The intersection of Guerrero Street/Cesar Chavez Street would operate at LOS F under Existing plus Project conditions for Option 2.

Under Existing conditions, the Guerrero Street/Cesar Chavez Street intersection operates at LOS D with 52.5 seconds of delay. However, under Existing plus Project conditions for Option 2, the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the westbound direction on Cesar Chavez Street. Because the southbound, eastbound and westbound critical movements

deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

M-TR-P5-6d:

No feasible mitigation measures have been identified for the Guerrero Street/Cesar Chavez Street intersection under Existing plus Project conditions for Option 2. Hence, a significant impact would occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6e:

The intersection of Guerrero Street/Cesar Chavez Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.30. However, under 2025 Cumulative plus Project conditions for Option 1, the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the southbound, eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

M-TR-P5-6e:

Lane configuration adjustments to the westbound direction along Cesar Chavez Street would improve LOS and reduce the delay for the Guerrero Street/Cesar Chavez Street intersection. The removal of on-street parking along Cesar Chavez Street (applying either Option 1 or 2 per proposed possible Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined) is proposed which would provide an additional through lane along the westbound approach of Cesar Chavez Street. This lane adjustment would decrease the delay and improve the V/C ratio by 26 percent (from 1.76 to 1.30). Nevertheless, this mitigation measure would not reduce the project impacts at Guerrero Street/Cesar Chavez Street to a less-than-significant level.

Significant Impact TR-P5-6f:

The intersection of Guerrero Street/Cesar Chavez Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 2.

Under 2025 Cumulative conditions, the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.30. However, under 2025 Cumulative plus Project conditions for Option 2, the Guerrero Street/Cesar Chavez Street intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the westbound direction on Cesar Chavez Street. Because the southbound, eastbound and westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6. Table V.5-38, p. V.A.3-523, summarizes these results.

M-TR-P5-6f:

No feasible mitigation measures have been identified for the Guerrero Street/Cesar Chavez Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the Guerrero Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

TABLE V.5-37
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		Existing plus Project (Option 1)		Existing plus Project Option 1 with Mitigation Measures	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS
27.	Guerrero Street/Cesar Chavez Street	**>80**	**F**	52.5	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

TABLE V.5-38
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

	Intersection	2025 Cumulative plus Project Option 1		2025 Cumulative plus Project Option 1 with Mitigation Measures	
		Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
27.	Guerrero Street/Cesar Chavez Street	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:
a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P5-6g:

The intersection of Mission Street/Cesar Chavez Street would operate at LOS F under Existing Project conditions for Option 1.

Under Existing conditions, the Mission Street/Cesar Chavez Street intersection operates at LOS D with 37.5 seconds of delay. The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions as a result of the lane configuration changes in the westbound direction on Cesar Chavez Street. Because the southbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

M-TR-P5-6g:

No feasible mitigation measures have been identified for the Mission Street/Cesar Chavez Street intersection under Existing plus Project conditions for Option 1. Hence, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6h:

Under Existing conditions, this intersection operates at LOS D with 37.5 seconds of delay. The Mission Street/Cesar Chavez Street intersection would operate unsatisfactorily at LOS E, with 55.7 seconds of average delay under Existing plus Project conditions for Option 2 as a result of

the lane configuration changes in the eastbound and westbound directions of Cesar Chavez Street. Because the westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

M-TR-P5-6h:

Lane configuration adjustments to the eastbound and westbound directions along Cesar Chavez Street would improve LOS and reduce the delay at the Mission Street/Cesar Chavez Street intersection. It is proposed that on-street parking be removed from Cesar Chavez Street (applying either Option 1 or 2 per proposed possible Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined, along Cesar Chavez Street in the eastbound and westbound directions which would provide an additional through lane in both directions. These lane adjustments would decrease the delay and improve LOS from E to D. However, because of the uncertainty of the feasibility of this mitigation measure, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6. In addition, bicycle lane discontinuity could occur at this location.

Significant Impact TR-P5-6i:

The intersection of Mission Street/Cesar Chavez Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 2.

Under 2025 Cumulative conditions, the Mission Street/Cesar Chavez Street intersection would operate at LOS E with 64.9 seconds of delay. However, under 2025 Cumulative plus Project conditions for Option 1, the Mission Street/Cesar Chavez Street intersection would operate at LOS F with more than 80 seconds of average delay as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact may occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

M-TR-P5-6i:

No feasible mitigation measures have been identified for the Mission Street/Cesar Chavez Street intersection under 2025 Cumulative plus Project conditions for Option 1. Hence, a significant

impact may occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6j:

Under 2025 Cumulative conditions, the Mission Street/Cesar Chavez Street intersection would operate at LOS E with 64.9 seconds of delay. However, under 2025 Cumulative plus Project conditions for Option 2, the Mission Street/Cesar Chavez Street intersection would operate at LOS F with more than 80 seconds of average delay as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

M-TR-P5-6j:

Lane configuration adjustments to the eastbound and westbound directions along Cesar Chavez Street would improve LOS and reduce the delay at the Mission Street/Cesar Chavez Street intersection. It is proposed that on-street parking be removed from Cesar Chavez Street (applying either Option 1 or 2 per proposed possible Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined) along Cesar Chavez Street in the eastbound and westbound directions which would provide an additional through lane in both directions. These lane adjustments would decrease the delay and improve LOS from F to E. However, because of the uncertainty of the feasibility of this mitigation measure, a significant impact would occur at the Mission Street/Cesar Chavez Street intersection with the implementation of Project 5-6. Table V.5-39, p. V.A.3-526, and Table V.5-40, p. V.A.3-526, summarizes these results.

TABLE V.5-39
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

	Intersection	Existing plus Project Option 2		Existing plus Project Option 2 with Mitigation Measures	
		Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
28.	Mission Street/Cesar Chavez Street	55.7	E	36.7	D

Source: Wilbur Smith Associates, October 2008

Notes:
a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

TABLE V.5-40
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

	Intersection	2025 Cumulative plus Project (Option 2)		2025 Cumulative plus Project Option 2 with Mitigation Measures	
		Average Delay[a]	LOS[b]	Average Delay[a]	LOS
28.	Mission Street/Cesar Chavez Street	78.0	F	57.3	E

Source: Wilbur Smith Associates, October 2008

Notes:
a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P5-6k:

Under Existing conditions, the Cesar Chavez Street/South Van Ness Avenue intersection operates at LOS C with 32.4 seconds of delay. However, under Existing plus Project conditions for Option 1, the South Van Ness Avenue/Cesar Chavez Street intersection would operate at LOS F with more than 80 seconds of average delay as a result of the lane configuration changes to the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Cesar Chavez Street/South Van Ness Avenue intersection with the implementation of Project 5-6.

M-TR-P5-6k:

Lane configuration adjustments to the eastbound and westbound directions along Cesar Chavez Street would improve LOS and reduce the delay at the Cesar Chavez Street/South Van Ness Avenue intersection. It is proposed that on-street parking along Cesar Chavez Street be removed (applying either Option 1 or 2 per proposed possible Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined) in both the eastbound and westbound directions on Cesar Chavez Street, which would provide an additional through lane along both approaches. These lane adjustments would decrease the delay and improve LOS from F to D. However, because of the uncertainty of the feasibility of this mitigation measure, a significant impact may occur at the Cesar Chavez Street/South Van Ness Avenue intersection with the implementation of Project 5-6. Table V.5-41, p. V.A.3-529 below summarizes these results.

Significant Impact TR-P5-6l:

Under Existing conditions, the Cesar Chavez Street/South Van Ness Avenue intersection operates at LOS C with 32.4 seconds of delay. However, under Existing plus Project conditions for Option 2, the South Van Ness Avenue/Cesar Chavez Street intersection would operate at LOS E with 78.5 seconds of average delay as a result of the lane configuration changes to the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Cesar Chavez Street/South Van Ness Avenue intersection with the implementation of Project 5-6.

M-TR-P5-6l:

Lane configuration adjustments to the westbound direction along Cesar Chavez Street would improve LOS and reduce the delay at the Cesar Chavez Street/South Van Ness Avenue intersection. It is proposed that on-street parking along Cesar Chavez Street be removed (applying either Option 1 or 2 per proposed possible Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined) in the westbound direction which would provide an additional through lane along this approach. This lane adjustment would decrease the delay and improve LOS from E to D. However, because of the uncertainty of the

feasibility of this mitigation measure, a significant impact would occur at the Cesar Chavez Street/South Van Ness Avenue intersection with the implementation of Project 5-6. Table V.5-42, p. V.A.3-529, summarizes these results.

Significant Impact TR-P5-6m:

The intersection of South Van Ness Avenue/Cesar Chavez Street would operate at LOS F under 2025 Cumulative plus Project conditions for Option 2.

Under 2025 Cumulative conditions, the Cesar Chavez Street/South Van Ness Avenue intersection would operate at LOS F with a V/C ratio of 1.49. However, under 2025 Cumulative plus Project conditions for Option 1, the South Van Ness Avenue/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.91 as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Cesar Chavez Street/South Van Ness Avenue intersection with the implementation of Project 5-6.

M-TR-P5-6m:

Lane configuration adjustments to the eastbound direction and westbound direction on Cesar Chavez Street would improve LOS and reduce the delay at this the Cesar Chavez Street/South Van Ness intersection. It is proposed that on-street parking along Cesar Chavez Street be removed (applying either Option 1 or 2 per proposed possible Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined) in both the eastbound and westbound directions on Cesar Chavez Street, which would provide an additional through lane along both approaches. These lane adjustments decrease the amount of average delay and reduce the V/C ratio by 22 percent (from 1.91 to 1.49). Nevertheless, this mitigation measure would not reduce the project impacts to a less-than-significant level. Table V.5-43, p. V.A.3-530, summarizes these results.

Significant Impact TR-P5-6n:

Under 2025 Cumulative conditions, the Cesar Chavez Street/South Van Ness Avenue intersection would operate at LOS F with a V/C ratio of 1.49. However, under 2025 Cumulative plus Project conditions for Option 2, the Cesar Chavez Street/South Van Ness Avenue intersection would operate at LOS F with a V/C ratio of 1.53 as a result of the lane configuration

changes in the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Cesar Chavez Street/South Van Ness Avenue intersection with the implementation of Project 5-6.

M-TR-P5-6n:

No feasible mitigation measures have been identified for the the Cesar Chavez Street/South Van Ness Avenue intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the Cesar Chavez Street/South Van Ness Avenue intersection with the implementation of Project 5-6.

TABLE V.5-41
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON
EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

	Existing plus Project Option 1		Existing plus Project Option 1 with Mitigation Measures	
Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS
29. Cesar Chavez Street/South Van Ness Avenue	>80	**F**	50.2	D

Source: Wilbur Smith Associates, 2008

Notes:
a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

TABLE V.5-42
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON
EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

	Existing plus Project Option 1		Existing plus Project Option 1 with Mitigation Measures	
Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS
29. Cesar Chavez Street/South Van Ness Avenue	**78.5**	**E**	36.4	D

Source: Wilbur Smith Associates, 2008

Notes:
a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

TABLE V.5-43
CLUSTER 5 – PROJECT 5-6 INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1			2025 Cumulative plus Project Option 1 with Mitigation Measures		
	Intersection	Average Delay[a]	LOS[b]	V/C	Average Delay[a]	LOS[b]	V/C
29.	South Van Ness Avenue/Cesar Chavez Street	>80	F	1.91	>80	F	1.49

Source: Wilbur Smith Associates, 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P5-6o:

The intersection of Bryant Street/Cesar Chavez Street would operate at LOS F under Existing plus Project conditions for Option 2.

Under Existing conditions, the Bryant Street/Cesar Chavez Street intersection operates at LOS D with 51.4 seconds of delay. However, under Existing plus Project conditions for Option 1, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F with more than 80 seconds of average delay as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound and westbound critical movements on Cesar Chavez Street deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact may occur at the Bryant Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

M-TR-P5-6o:

Lane configuration adjustments to the eastbound direction and westbound direction along Cesar Chavez Street would improve LOS and reduce the delay at the Bryant Street/Cesar Chavez Street intersection. It is proposed that on-street parking be removed along the eastbound and westbound directions on Cesar Chavez Street (applying either Option 1 or 2 per proposed possible Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined), which would provide an additional through lane in both

directions. These lane adjustments would decrease the delay and improve the V/C ratio by 29 percent (from 1.34 to 0.95) and improve LOS from F to D. However, because of the uncertainty of the feasibility of this mitigation measure, a significant impact would occur at the Bryant Street/Cesar Chavez Street intersection with the implementation of Project 5-6. Table V.5-45, p. V.A.3-534, summarizes these results.

Significant Impact TR-P5-6p:

Under Existing conditions, the Bryant Street/Cesar Chavez Street intersection operates at LOS D with 51.4 seconds of delay. However, under Existing plus Project conditions for Option 2, the Bryant Street/Cesar Chavez Street intersection would operate at LOS E with 66.4 seconds of average delay as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the eastbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Bryant Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

M-TR-P5-6p:

No feasible mitigation measures have been identified for the Bryant Street/Cesar Chavez Street intersection under Existing plus Project conditions for Option 2. Hence, a significant impact would occur at the Bryant Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

Significant Impact TR-P5-6q:

The intersection of Bryant Street/Cesar Chavez Street would operate at LOS F under Cumulative plus Project conditions for Option 2.

Under 2025 Cumulative conditions, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.71. However, under 2025 Cumulative plus Project conditions for Option 1, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 2.27 as a result of the lane configuration changes in the eastbound and westbound directions. Because the northbound, eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 5-6.

M-TR-P5-6q:

Lane configuration adjustments to the eastbound and westbound directions along Cesar Chavez Street would improve LOS and reduce the delay at the Bryant Street/Cesar Chavez Street intersection. It is proposed that on-street parking be removed in the eastbound and westbound directions along Cesar Chavez Street (applying either Option 1 or 2 per proposed possible Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined), which would provide an additional through lane along both approaches. These lane adjustments would decrease the delay and improve the V/C ratio by 28 percent (from 2.04 to 1.47). Nevertheless, this mitigation measure would not reduce the project impacts to a less than significant level. Hence a significant impact would occur at the Bryant Street/Cesar Chavez Street intersection with the implementation of Project 5-6. Table V.5-44, p. V.A.3-534, summarizes these results.

Significant Impacts TR-P5-6e, TR-P5-6b, TR-P5-6c, TR-P5-6e, TR-P5-6h, TR-P5-6j, TR-P56k, TR-P5-6l, TR-P5-6m, TR-P5-6o, TR-P5-6q:

There would be significant impacts to intersection LOS at the Guerrero Street/Cesar Chavez Street intersection, under Existing plus Project conditions with Option 2 and, under 2025 Cumulative conditions with Options 1 and 2. There would also be significant impacts to intersection LOS at the Mission Street/Cesar Chavez Street intersection under Existing plus Project conditions with Options 1 and 2, and under 2025 Cumulative conditions with Options 1 and 2. There would also be significant impacts to intersection LOS at the South Van Ness Avenue/Cesar Chavez Street intersection under Existing plus Project conditions with Options 1 and 2, and under 2025 Cumulative conditions with Options 1 and 2. There would also be significant impacts to intersection LOS at the Bryant Street/Cesar Chavez Street intersection under Options 1 and 2, and under 2025 Cumulative conditions with Option 1.

M-TR-P5-6w:

As referenced in the above Mitigation Measures M-TR-P5-6e, M-TR-P5-6h, M-TR-P 5-6j, M-TR-P 5-6k, M-TR-P 5-6l, M-TR-P 5-6m, M-TR-P 5-6o, and M-TR-P 5-6q, the traffic analysis conducted for Project 5-6 included four study intersections along Cesar Chavez for the segment between Hampshire and Guerrero Streets. Analysis indicates that if the lane configurations corresponding to the No Project conditions can be provided, some impacts will be mitigated at these intersections. The following two options are part of proposed possible mitigation

measures, for which feasibility has not yet been determined, to reinstate the lane configuration under No Project conditions.

- **Option 1**

  Removal of parking – For the four study intersections analyzed, approximately 100 spaces would need to be removed on Cesar Chavez Street to mitigate the impacts at these locations. However, additional parking spaces may need to be removed to reduce impacts along the entire corridor.

- **Option 2**

  Implementing a discontinuous bicycle lane – The consultant recommends the bicycle lane be discontinued at selected intersection approaches along Cesar Chavez Street. This option may reduce the number of parking spaces that need to be removed on Cesar Chavez Street compared to Option 1.

Significant Impact TR-P5-6r:

Under 2025 Cumulative conditions, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 1.71. However, under 2025 Cumulative plus Project conditions for Option 2, the Bryant Street/Cesar Chavez Street intersection would operate at LOS F with a V/C ratio of 2.23 as a result of the lane configuration changes in the eastbound and westbound directions along Cesar Chavez Street. Because the northbound, eastbound and westbound critical movements deteriorate for Option 2 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Bryant Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

M-TR-P5-6r:

No feasible mitigation measures have been identified for the Bryant Street/Cesar Chavez Street intersection under 2025 Cumulative plus Project conditions for Option 2. Hence, a significant impact would occur at the Bryant Street/Cesar Chavez Street intersection with the implementation of Project 5-6.

TABLE V.5-44
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON 2025 CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1			2025 Cumulative plus Project Option 1 with Mitigation Measures		
	Intersection	Average Delay[a]	LOS[b]	V/C	Average Delay[a]	LOS[b]	V/C
30.	Bryant Street/Cesar Chavez Street	>80	F	2.04	>80	F	1.47

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

TABLE V.5-45
CLUSTER 5 – PROJECT 5-6
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY COMPARISON EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1			2025 Cumulative plus Project Option 1 with Mitigation Measures		
	Intersection	Average Delay[a]	LOS[b]	V/C	Average Delay[a]	LOS[b]	V/C
30.	Bryant Street/Cesar Chavez Street	>80	F	1.34	51.4	D	0.95

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.

b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Significant Impact TR-P5-6s:

Muni bus line 12 would experience significant delays under Existing plus Project conditions for Project 5-6 Option 1.

M-TR-P5-6s:

The implementation of Option 1 under Existing plus Project conditions would add 474 seconds (7.9 minutes) of total delay for Muni bus line 12 westbound. With mitigation as described in Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-

P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined, this delay would be reduced to 262 seconds (4.4 minutes) of delay westbound for Muni bus line 12. This would reduce total delay below the transit delay threshold of 6 minutes. However, because of the uncertainty of the feasibility of this mitigation measure, a significant impact would occur to Muni bus line 12 for Project 5-6 Option 1 under Existing plus Project conditions.

Significant Impact TR-P5-6t:

Muni bus line 27 would experience significant delays under Existing plus Project conditions for Project 5-6 Option 1.

M-TR-P5-6t:

The implementation of Option 1 under Existing plus Project conditions would add 867 seconds (14.5 minutes) of total delay for Muni bus line 27. With mitigation as described in Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined, delay in the westbound direction would be reduced to 324 seconds (5.4 minutes) of delay westbound and 29 seconds eastbound for a total added delay of 353 seconds (5.8 minutes). This would reduce total delay below the transit delay threshold of 6 minutes. However, because of the uncertainty of the feasibility of this mitigation measure, a significant impact would occur to Muni bus line 27 for Project 5-6 Option 1 under Existing plus Project conditions.

Significant Impact TR-P5-6u:

Muni bus line 12 would experience significant delays under 2025 Cumulative plus Project conditions for Option 1.

M-TR-P5-6u:

The implementation of Option 1 under 2025 Cumulative plus Project conditions would add approximately 1,487 seconds (24.7 minutes) of total delay for Muni bus line 12 westbound. With mitigation as described in Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined. Therefore, a significant transit impact to Muni bus line 12 would occur with implementation of Project 5-6 with Option 1 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P5-6v:

Muni bus line 27 would experience significant delays under 2025 Cumulative plus Project conditions for Option 1.

M-TR-P5-6v:

The implementation of Option 1 under 2025 Cumulative plus Project conditions would add approximately 2,429 seconds (40.5 minutes) of total delay for Muni bus line 27. With mitigation as described in Mitigation Measure M-TR-P5-6w, as described on p. V.A.3-532, in conjunction with proposed possible Mitigation Measures, M-TR-P5-6e, M-TR-P5-6h, and M-TR-P5-6j, M-TR-P5-6k, M-TR-P5-6l, M-TR-P5-6m, M-TR-P5-6o, M-TR-P5-6q, for which feasibility has not yet been determined this delay would not be reduced westbound but would be reduced to 99 seconds (1.6 minutes) of delay eastbound. The total added delay of 1,897 seconds (31.6 minutes) would be greater than the transit delay threshold of 6 minutes. Therefore, a significant transit impact to Muni bus line 27 would occur with implementation of Project 5-6 with Option 1 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P5-13a:

Project 5-13 would result in a significant impact to loading with implementation of Option 1 under Existing plus Project conditions.

M-TR-P5-13a:

No feasible mitigation measures have been identified for Option 1. Hence, a significant loading impact would occur on the west side of San Bruno Avenue between Paul Avenue and Silver Avenue with the implementation of Project 5-13 Option 1 under Existing plus Project conditions.

Significant Impact TR-P5-13b:

Project 5-13 would result in a significant impact to loading with implementation of Option 2 under Existing plus Project conditions.

M-TR-P5-13b:

No feasible mitigation measures have been identified for Option 2. Hence, a significant loading impact would occur on the west side of San Bruno Avenue between Paul Avenue and Silver Avenue with the implementation of Project 5-13 Option 2 under Existing plus Project conditions.

Significant Impact TR-P5-13c:

Project 5-13 would result in a significant impact to loading with implementation of Option 1 under 2025 Cumulative plus Project conditions.

M-TR-P5-13c:

No feasible mitigation measures have been identified for Option 1. Hence, a significant loading impact would occur on the west side of San Bruno Avenue between Paul Avenue and Silver Avenue with the implementation of Project 5-13 Option 1 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P5-13d:

Project 5-13 would result in a significant impact to loading with implementation of Option 2 under 2025 Cumulative plus Project conditions.

M-TR-P5-13d:

No feasible mitigation measures have been identified for Option 2. Hence, a significant loading impact would occur on the west side of San Bruno Avenue between Paul Avenue and Silver Avenue with the implementation of Project 5-13 Option 2 under 2025 Cumulative plus Project conditions.

CLUSTER 6: TWIN PEAKS AREA[20]

This section provides a description of the Existing plus Project and 2025 Cumulative and 2025 Cumulative plus Project transportation conditions within the near-term improvements in Cluster 6: Projects 6-1, 6-4 and 6-5 have one design option; the remaining near-term improvements (Projects 6-2, 6-3, and 6-6) have two design options.

The Existing plus Project, 2025 Cumulative, and 2025 Cumulative plus Project turning movement traffic volumes at the study intersections within Cluster 6, the intersection lane configurations at those intersections, and the level of service and transit delay calculation sheets can be found in the TIS.

Figures showing the turning movement traffic volumes and lane configurations at the study intersections in Cluster 6 for Existing plus Project, 2025 Cumulative, and 2025 Cumulative plus Project conditions may be found within the transportation impact analysis discussion for

[20] Unless otherwise indicated, all intersection analysis is for PM Peak Hour conditions.

Cluster 6 within the Transportation Impact Study. Level of service calculation sheets for those intersections and transit delay calculation sheets for affected transit routes may be found in the appendices of the Transportation Impact Study.[21]

PROJECT 6-1: CLAREMONT BOULEVARD BICYCLE LANES, DEWEY BOULEVARD TO PORTOLA DRIVE

Project 6-1 would add southbound sharrows between Dewey Boulevard and Ulloa Street and a southbound Class II left-turn bicycle lane between Ulloa Street and Portola Drive by removing the striped median. Project 6-1 would also add a northbound Class II bicycle lane between Portola Drive and Dewey Boulevard by allocating eight feet for parking and narrowing the northbound travel lane.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

There are no transit lines on this segment of Claremont Boulevard. Therefore, there would be no transit impacts as a result of Project 6-1.

PARKING

Parking occupancy is generally high during midday, but there would be no changes in parking layout or in the number of parking spaces in this segment. Therefore, there would be no parking impacts as a result of Project 6-1.

PEDESTRIAN

Pedestrian volumes are generally low, and there would be no changes in sidewalk width or crosswalk layout. The interactions between pedestrians and bicyclists would not change as a result of Project 6-1. Therefore, there would be no pedestrian impacts.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. The installation of sharrows would increase the motor vehicle

[21] Wilbur Smith Associates. 2008. *San Francisco Bicycle Plan Update Transportation Impact Study.* This document is available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103 as part of Case File No 2007.0347E.

driver's awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone'.[22] Hence, Project 6-1 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This area has mostly residential buildings that typically have low loading demand. There were no double-parked vehicles or significant loading needs observed[23] in the field, and there would be no changes to the on-street loading spaces. Therefore, there would be no loading impacts as a result of Project 6-1.

PROJECT 6-2: CLIPPER STREET BICYCLE LANES, DOUGLASS STREET TO PORTOLA DRIVE

There are two options for the segment between Douglass Street and Portola Drive.

Between Portola Drive and Diamond Heights Boulevard, Option 1 would add a left-turn Class II bicycle lane and a Class II bicycle lane on the curbside and remove one eastbound left-turn lane. Sharrows would be added to the southbound curb lane. Option 2 would add sharrows in one eastbound left-turn lane and the westbound curb lane.

Between Diamond Heights Boulevard and Douglass Street, Options 1 and 2 would be the same. Both options would add a westbound Class II bicycle lane and an eastbound Class II bicycle lane. Both options would also remove one travel lane in each direction in this segment, except at the westbound approach to the Diamond Heights Boulevard and Clipper Street intersection. In order to accommodate the bicycle lane at the approach to Portola Avenue, there would be some change to the lane configurations at this approach. A two-way left-turn center lane would be added between Grandview Avenue and Douglass Street.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour.

One study intersection is included for the PM Peak Hour for Project 6-2.

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[22] See note on San Francisco's Shared Lane Pavement Markings: Improving Bicycle Safety.

[23] Field surveys were conducted by CHS Consulting on Wednesday, December 19, 2007 during the midday.

Intersection 38: Burnett Avenue/Clipper Street/Portola Drive

The Burnett Avenue/Clipper Street/Portola Drive intersection is common to Projects 6-2 and 6-5 within the Cluster 6 area. For both Projects 6-2 and 6-5, Option 2 has the same lane configuration as Existing (No Project) conditions. In addition, for Project 6-2, for Option 1, a northbound exclusive left-turn lane would be removed relative to Existing (No Project) conditions. Project 6-5 proposes the removal of a westbound through lane relative to Existing (No Project) conditions for Option 1. The analysis below reflects the combined impact of implementing Projects 6-2 and 6-5 at this intersection. The impacts resulting from the implementation of Project 6-2 alone would follow the discussion of the combined impacts

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 6-2 and 6-5 combined
  For the combined Project 6-2 and 6-5, under Existing conditions, this intersection operates at LOS D with 49.6 seconds of delay. The Burnett Avenue/Clipper Street/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from two exclusive left-turn lanes, and one shared through-right turn lane to one exclusive left-turn lane and one shared through-right lane. The westbound lane configuration would be modified from two through lanes, one shared through-right turn lane and one exclusive left-turn lane to one through lane, one exclusive left-turn lane and one shared through-right turn lane. Due to the reduction of capacity in the northbound and westbound directions, there would be an increase in delay along these approaches. Because the northbound and westbound critical movements at the Burnett Avenue/Clipper Street/Portola Drive intersection either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P6-2a) would occur with the implementation of Projects 6-2 and 6-5 combined Option 1 under Existing plus Project. See Table V.6-6, p. V.A.3-543 for these results.

  Existing and Existing plus Project Conditions for Project 6-2 alone
  Under Existing conditions, this intersection operates at LOS D with 49.6 seconds of delay. The Burnett Avenue/Clipper Street/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. The northbound lane configuration would be modified from two exclusive left-turn lanes, and one shared through-right turn lane to one exclusive left-turn lane and one shared through-right lane. No lane configuration changes are proposed for the other approaches. Due to the reduction of capacity in the northbound direction, there would be an increase in delay along this approach. Because the northbound critical movement at the Burnett Avenue/Clipper Street/Portola Drive

intersection either deteriorates or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P6-2c) would occur with the implementation of Project 6-2 Option 1 under Existing plus Project. Table V.6-6, p. V.A.3-543, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-2 and 6-5 combined

For the combined Project 6-2 and 6-5, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate unsatisfactorily at LOS E, with 70.1 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Deterioration of the northbound and westbound critical movement at Burnett Avenue/Clipper Street/Portola Drive to LOS F, when comparing Existing plus Project to Existing Conditions, is deemed a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P6-2b) would occur at this intersection with implementation of Projects 6-2 and 6-5 combined Option 1 under 2025 Cumulative plus Project Conditions. Table V.6-7, p. V.A.3-543, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 6-2 alone

The Burnett Avenue/Clipper Street/Portola Drive intersection would operate unsatisfactorily at LOS E, with 70.1 seconds of average delay under 2025 Cumulative conditions in the PM Peak Hour. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Deterioration of the northbound critical movement at Burnett Avenue/Clipper Street/Portola Drive to LOS F, when comparing Existing plus Project to Existing Conditions, is deemed a significant impact. As a consequence a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P6-2d) would occur at this intersection with implementation of Project 6-2 Option 1 under 2025 Cumulative plus Project Conditions. See Table V.6-7, p. V.A.3-543, for these results.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 6-2 and 6-5 combined

For the combined Project 6-2 and 6-5, under Existing conditions, this intersection operates at LOS D with 49.6 seconds of delay. The Burnett Avenue/Clipper

Street/Portola Drive intersection would continue to operate satisfactorily at LOS D, with 49.6 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to this intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay. Thus, Projects 6-2 and 6-5 combined Option 2 would not cause a significant impact at the Burnett Avenue/Clipper Street/Portola Drive intersection under Existing plus Project conditions. Table V.6-6, p. V.A.3-543summarizes these results.

Existing and Existing plus Project Conditions for Project 6-2 alone

Under Existing conditions, this intersection operates at LOS D with 49.6 seconds of delay. The Burnett Avenue/Clipper Street/Portola Drive intersection would continue to operate satisfactorily at LOS D, with 49.6 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to this intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay. Thus, Project 6-2 Option 2 would not cause a significant impact at the Burnett Avenue/Clipper Street/Portola Drive intersection under Existing plus Project conditions. Table V.6-6, p. V.A.3-543, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-2 and 6-5 combined

For the combined Project 6-2 and 6-5, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate unsatisfactorily at LOS E, with 70.1 seconds of average delay under 2025 Cumulative conditions. The Burnett Avenue/Clipper Street/Portola Drive intersection would operate unsatisfactorily at LOS E, with 70.1 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for the Burnett Avenue/Clipper Street/Portola Drive intersection. Thus, a significant impact would not occur at this intersection with the implementation of Projects 6-2 and 6-5 combined Option 2 under 2025 Cumulative plus Project Conditions. Table V.6-7, p. V.A.3-543, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 6-2 alone

The Burnett Avenue/Clipper Street/Portola Drive intersection would operate unsatisfactorily at LOS E, with 70.1 seconds of delay under 2025 Cumulative plus Project conditions in the PM Peak Hour. However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at this intersection with the implementation of Projects 6-2 Option 2 under 2025 Cumulative plus Project Conditions. Table V.6-7, p. V.A.3-543, summarizes these results.

TABLE V.6-6
CLUSTER 6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR BURNETT AVENUE/CLIPPER STREET/PORTOLA DRIVE EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing plus Project Option 1				Existing plus Project Option 2			
Existing		Project 6-2		Combined Projects 6-2 and 6-5		Project 6-2		Combined Projects 6-2 and 6-5	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
49.6	D	>80	**F**	>80	**F**	49.6	D	49.6	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

TABLE V.6-7
CLUSTER 6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR BURNETT AVENUE/CLIPPER STREET/PORTOLA DRIVE 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 6-2		Combined Projects 6-2 and 6-5		Project 6-2		Combined Projects 6-2 and 6-5	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
70.1	**E**	>80	**F**	>80	**F**	**70.1**	**E**	**70.1**	**E**

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Significant Impact TR-P6-2a (Projects 6-2 and 6-5 combined):

The intersection of Burnett Avenue/Clipper Street/Portola Drive would operate at LOS F under Existing plus Project conditions for Option 1.

Under Existing conditions, this intersection operates at LOS D with 49.6 seconds of delay. However, under Existing plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds

as a result of the lane configuration changes in the northbound and westbound directions. Because the northbound and westbound critical movements deteriorate for Option 1 from LOS D under Existing conditions to LOS F with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-2.

Significant Impact TR-P6-2b (Projects 6-2 and 6-5 combined):

The intersection of Burnett Avenue/Clipper Street/Portola Drive would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS E with 70.1 seconds of delay. However, under 2025 Cumulative plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration adjustments in the northbound Clipper Street and westbound Portola Drive directions. Because the northbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-2.

Significant Impact TR-P6-2c:

Under Existing conditions, the Burnett Avenue/Clipper Street/Portola Drive intersection operates at LOS D with 49.6 seconds of delay. However, under Existing plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the northbound Clipper Street direction. Because the northbound critical movements deteriorate for Option 1 from LOS D under Existing conditions to LOS F with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-2.

Significant Impact TR-P6-2d:

Under 2025 Cumulative conditions, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS E with 70.1 seconds of delay. However, under 2025 Cumulative plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration adjustments in the northbound Clipper Street direction. Because the northbound critical movements deteriorate for Option 1 with a corresponding deterioration in

the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-2.

TRANSIT

Muni bus line 48 runs in both directions on Clipper Street between Portola Drive and Grandview Avenue with approximately five buses per hour each way during the AM and PM peak periods. Muni bus line 52 operates in both directions on Clipper Street between Portola Drive and Diamond Heights Boulevard with approximately four buses per hour each way during the AM peak period and approximately three buses per hour each way during the PM peak period.

There are two bus stops along Project 6-2. One stop is located on the north side of Clipper Street for westbound Muni bus line 48. The second stop is an eastbound bus stop for Muni bus lines 48 and 52 located on the south side of Clipper Street between Portola Drive and Diamond Heights Boulevard.

No changes would be made to existing bus stops for Muni bus lines 48 and 52 with either Option 1 or Option 2.

Project 6-2 shares a common intersection (Intersection 38: Burnett Avenue/Clipper Street/Portola Drive) with Project 6-5: Portola Drive Bicycle Lanes, Corbett Avenue to O'Shaughnessy Boulevard. The transit delay analysis below (Projects 6-2 and 6-5 combined) reflects the combined impact of Projects 6-2 and 6-5 combined modifications to the Burnett Avenue/Clipper Street/Portola Drive intersection on transit delay.

- **Option 1**

  Existing plus Project Conditions (Projects 6-2 and 6-5 Combined)
  With Option 1 the proposed removal of one left-turn lane at the northbound approach of the Clipper Street/Portola Drive intersection would affect travel time for Muni bus lines 48 and 52 for the PM peak hour. For each route, this modification would add 203 seconds (3.4 minutes) of delay per transit vehicle westbound with no change in delay eastbound. The headways for Muni bus lines 48 and 52 in the PM peak period are 12 minutes and 15 minutes, respectively; the total added delay of 203 seconds (3.4 minutes) resulting from Projects 6-2 and 6-5 combined Option 1 would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with the implementation of Projects 6-2 and 6-5 combined Option 1 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions (Projects 6-2 and 6-5 Combined)
With Option 1 the proposed removal of one left-turn lane at the northbound approach of the Clipper Street/Portola Drive intersection would affect travel time for Muni bus lines 48 and 52. For each route, this modification would add 201 seconds (3.4 minutes) of delay per vehicle westbound with no change in delay eastbound. The headways for Muni bus lines 48 and 52 in the PM peak period are 12 minutes and 15 minutes, respectively; the total added delay of 201 seconds (3.4 minutes) resulting from Project 1-1 Option 1 would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with the implementation of Projects 6-2 and 6-5 combined Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing plus Project Conditions (Projects 6-2 and 6-5 Combined)
Option 2 would not change travel lanes or otherwise affect Muni operations, therefore there would be no significant transit impacts with Projects 6-2 and 6-5 combined Option 2 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions (Projects 6-2 and 6-5 Combined)
Option 2 would not change travel lanes or otherwise affect Muni operations, therefore there would be no significant transit impacts with Projects 6-2 and 6-5 combined Option 2 under 2025 Cumulative plus Project conditions.

Since combined projects 6-2 and 6-5 would not result in a significant Transit impact at the intersection of Burnett Avenue/Clipper Street/Portola Drive for the PM peak hour under Existing plus Project conditions and 2025 Cumulative plus Project conditions. There would be significant transit impact from individual Project 6-2 at the intersection of Burnett Avenue/Clipper Street/Portola Drive for the PM under both Existing plus Project conditions and 2025 Cumulative plus Project conditions.

PARKING

Parking occupancy is generally low, and there would be no changes in parking layout or in the number of parking spaces in this segment. Therefore, there would be no parking impacts as a result of Project 6-2 with either Option 1 or Option 2.

PEDESTRIAN

There is no sidewalk on the south side of Clipper Street and no crosswalks throughout the entire segment between Douglass Street and Portola Drive. Pedestrian volumes are generally

very low along this hilly street. There would be no changes in existing pedestrian facilities under either option. Therefore, there would be no pedestrian impacts as a result of Project 6-2 with either Option 1 or Option 2.

BICYCLE

The installation of bicycle lanes under Project 6-2 Option 1 would provide bicyclists with a designated right-of-way for travel. The installation of sharrows would increase the motor vehicle driver's awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone'.[24] Therefore, Project 6-2 with either Option 1 or Option 2 would not result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Clipper Street has residential use on the north side, and a steep slope on the south side between Douglass Street and Diamond Heights Boulevard. Loading demand is very low and there would be no change to the existing on-street parking spaces. Therefore, there would be no loading impacts as a result of Project 6-2 with Option 1 or Option 2.

PROJECT 6-3: LAGUNA HONDA BOULEVARD BICYCLE LANES, PLAZA STREET TO WOODSIDE AVENUE

There are two options for this segment of Laguna Honda Boulevard.

- **Option 1**

  Option 1 would add Class II bicycle lanes in both directions on Laguna Honda Boulevard between Plaza Street and Woodside Avenue and a southbound left-turn bicycle lane between the through and the left-turn travel lanes at the approach to the Woodside Avenue intersection. This option would remove one northbound right-turn lane between Woodside Avenue and Dewey Boulevard and one northbound travel lane between Dewey Boulevard and approximately Forest Hill Station. One southbound

[24] In February 2004, Alta Planning + Design completed a study, *San Francisco's Shared Lane Pavement Markings: Improving Bicycle Safety*, on shared lane markings for Class III bikeways in San Francisco. In this study, a key conclusion was that the pavement markings (also known as sharrow markings) increased the awareness of the bicyclists' and motorists' position on the road. Bicyclists tended to ride further from parked cars, and motorists tended to pass bicyclists at a greater distance from the pavement marking. The report's recommendation was to use the sharrow markings on appropriate shared lanes but not as a substitution for bicycle lanes where feasible.

travel lane from 115 feet south of Plaza Street to Dewey Boulevard would also be removed to accommodate the southbound Class II bicycle lane.

- **Option 2**

  Option 2 would add Class II bicycle lanes in both directions directions on Laguna Honda Boulevard between Plaza Street and Woodside Avenue. This option would widen the roadway by relocating and rebuilding the sidewalks into the Laguna Honda Hospital and Forest Hill Station property lines on both sides of Laguna Honda Boulevard. This option would maintain the sidewalk widths but narrow the median width by two feet. In addition, Option 2 would modify the southbound approach to the Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue by changing the shared through-left turn lane to a exclusive left-turn lane.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour.

One study intersection is included for the PM Peak Hour for Project 6-3.

Intersection 39: Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue

- **Option 1**

  Existing and Existing plus Project Conditions
  Under Existing conditions, this intersection operates at LOS B with 18.7 seconds of delay. The Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue intersection would operate satisfactorily at LOS C, with 28.8 seconds of average delay under Existing plus Project conditions. The southbound lane configuration would be modified from one through lane, one shared through-left turn lane, and one exclusive left-turn lane to one through lane and one exclusive left-turn lane. The westbound lane configuration would be modified from two exclusive left-turn lanes and two right-turn lanes to two left-turn lanes and one exclusive right-turn lane. Due to the reduction of capacity in the southbound direction and westbound direction, there would be an increase in delay along these approaches. The average intersection delay would increase by 10.1 seconds; however the intersection would continue to operate at a satisfactory level of service. Therefore, Project 6-3 Option 1 would not cause a significant traffic impact to the Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue intersection under Existing plus Project conditions. Table V.6-8, p. V.A.3-549, summarizes these results.

TABLE V.6-8
CLUSTER 6 – PROJECT 6-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS	Average Delay[a]	LOS
39.	Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue	18.7	B	28.8	C	18.9	B

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue intersection would operate satisfactorily at LOS B, with 19.4 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate satisfactorily at LOS D, with 35.5 seconds of delay under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at this intersection with the implementation of Project 6-3 Option 1. Table V.6-9, p. V.A.3-549, summarizes these results.

TABLE V.6-9
CLUSTER 6 – PROJECT 6-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS	Average Delay[a]	LOS
39.	Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue	19.4	B	35.5	D	19.6	B

Source: Wilbur Smith Associates, October 2008

Note:

a. Delay in seconds per vehicle.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS B with 18.7 seconds of delay. The Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue intersection would operate satisfactorily at LOS B, with 18.9 seconds of average delay under Existing plus Project conditions. The southbound lane configuration would be modified from one through lane, one shared through-left turn lane, and one exclusive left-turn lane to one through lane and two left-turn lanes. Due to the reduction in capacity in the southbound direction, there would be an increase in delay. The average intersection delay would increase by 0.2 seconds. Therefore, Project 6-3 Option 2 would not cause a significant traffic impact at the Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue intersection under Existing plus Project conditions. Table V.6-8 on p. V.A.3-549, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Laguna Honda Boulevard/Dewey Boulevard/Woodside Avenue intersection would operate satisfactorily at LOS B, with 19.6 seconds of delay under 2025 Cumulative plus Project conditions. Therefore, a significant impact would not occur at this intersection with the implementation of Project 6-3 Option 2 under 2025 Cumulative plus Project Conditions. Table V.6-9 on p. V.A.3-549, summarizes these results.

TRANSIT

Muni bus lines 36, 43, 44, 52, 89, and L OWL operate in both directions along Laguna Honda Boulevard between Plaza Street and Woodside Avenue. There are two bus stops: the southbound stop is located directly in front of the Forest Hill Muni Station and the northbound stop is located across the street in an exclusive turn-off area. There are approximately 19 buses per hour each way during the AM peak period and approximately 18 buses per hour each way during the PM peak period.

The proposed bicycle improvements would not change bus operations or passenger access.

- **Option 1**

Existing and Existing plus Project Conditions
For Existing conditions, Option 1 would add approximately 54 seconds of delay eastbound and 19 seconds of delay westbound to Muni bus operations in the PM peak hour. The headways for Muni bus lines along Project 6-3 range from 8 to 30 minutes in the PM peak period; the total added delay of 73 seconds (1.2 minutes) resulting from Project 6-3 would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with the implementation of Project 6-3 Option 1 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions
For Cumulative conditions, Option 1 would add approximately 69 seconds of delay eastbound and 43 seconds of delay westbound to Muni bus operations in the PM peak hour. The headways for Muni bus lines along Project 6-3 range from 8 to 30 minutes in the PM peak period; the total added delay of 112 seconds (1.9 minutes) resulting from Project 6-3 would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with the implementation of Project 6-3 Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions
For Existing conditions, Option 2 would not change bus operations or passenger access for Muni lines along this segment of Laguna Honda Boulevard and would not cause a substantive change in travel delay; therefore a significant transit impact would not occur with implementation of Project 6-3 Option 2 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions
For Cumulative conditions, Option 2 would add approximately 29 seconds of delay eastbound and 25 seconds of delay westbound to Muni bus operations in the PM peak hour. The headways for Muni bus lines along Project 6-3 range from 8 to 30 minutes in the PM peak period; the total added delay of 54 seconds resulting from Project 6-3 would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with the implementation of Project 6-3 Option 2 under 2025 Cumulative plus Project conditions.

PARKING

There would be no changes in parking layout or the number of parking spaces with either Option 1 or Option 2 of Project 6-3. Therefore, there would be no parking impacts as a result of Project 6-3 with either Option 1 or Option 2.

PEDESTRIAN

- **Option 1**
Option 1 would not change sidewalk, crosswalk layout or medians under Option 1. Therefore, there would be no pedestrian impacts under Project 6-3 Option 1.

- **Option 2**
Option 2 would widen the roadway along Laguna Honda Boulevard by relocating sidewalk and narrowing portions of the median. Two pedestrian crossings would be affected: 1). The crossing distance at the crosswalk across Laguna Honda Boulevard in front of the Forest Hill Muni Station would be increased by three feet through narrowing of the median at the northbound bus stop pull-out. This crossing is not

signalized. 2). The roadway at the Laguna Honda Boulevard/Dewey Boulevard/ Woodside Avenue intersection for the southbound approach of Laguna Honda Boulevard would be widened by approximately eight feet through relocation of the sidewalk on the west side of Laguna Honda Boulevard (6 feet) and by reduction in the width of the center median (2 feet). This would effectively increase the crossing distance of that southbound approach to approximately 45 feet and approximately 86 feet to cross the whole leg of the intersection. For this crossing, there is a green time cycle of 12.9 seconds and a flashing cycle of 9 seconds. With the increased crossing distance under Option 2, pedestrians would still have adequate time to safely make this crossing at a normal speed of 4.0 feet per second. The center median would be used for pedestrians traveling at slower speeds. Potential conflicts between pedestrians and bicyclists in the bicycle lane would not increase over Existing conditions. Therefore, there would be no significant pedestrian impacts under Project 6-3 Option 2.

BICYCLE

Under both Option 1 and Option 2 of Project 6-3, bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. The proposed left-turn bicycle lane under both options at the approach to Woodside Avenue, similar to what SFMTA has implemented at the intersection of Howard and 10th Streets, would provide left-turning cyclists with needed road space to complete their maneuver safely. Hence, Project 6-3 with both Option 1 and Option 2 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

There are no existing on-street loading spaces in this segment, and the land uses in this short segment of Laguna Honda Boulevard do not have a loading demand. Passenger loading activity occurs in the turn-off areas in front of the Forest Hill Station entrance as well as on the east side across the street from the entrance, and neither option would change the layout at this location or any other on-street or off-street parking spaces. Therefore, there would be no loading impacts as a result of Project 6-3 with Option 1 or Option 2.

PROJECT 6-4: LAGUNA HONDA BOULEVARD BICYCLE LANES, PORTOLA DRIVE TO WOODSIDE AVENUE

The project would add a Class II bicycle lane in the northbound direction on Laguna Honda Boulevard from Ulloa Street to Vasquez Avenue and would add sharrows on northbound Laguna Honda Boulevard from Vasquez Avenue to Woodside Avenue. In the southbound direction, Project 6-4 would add a Class II bicycle lane to the existing Class III bicycle route. To

add the Class II bicycle lane five parking spaces would be removed. Three existing Muni bus stops would be consolidated on Laguna Honda Boulevard at Idora Avenue, Balceta Avenue, and Hernandez Avenue into one 80-foot bus zone in each direction. The proposed bus stop modification would remove approximately eight parking spaces.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus line 43 runs along Laguna Honda Boulevard between Portola Drive and Woodside Avenue with approximately six buses per hour in each direction during the AM and PM peak periods. There are three northbound and four southbound Muni bus stops within this segment. The northbound bus stop located at the nearside of Ulloa Street and the southbound bus stop located at the nearside of Portola Drive are bus zones, but the remaining bus stops are pole stops. At the pole bus stops, buses stop in the travel lane adjacent to on-street parking to load and unload passengers. Because there is one travel lane in each direction, vehicles and bicyclists must wait behind the bus. Since transit volumes are moderate and traffic and bicycle volumes are generally low, interactions and the potential for conflicts are minimal and would not change as a result of Project 6-4.

Project 6-4 would consolidate two Muni pole stops on each side of Laguna Honda Boulevard at Idora and Balceta Avenues into one bus zone at Hernandez Avenue in each direction. Consolidating Muni bus stops and creating bus zones would reduce the potential for transit and traffic delay in this segment of Laguna Honda Boulevard by designating space at the curb, instead of next to parked cars, in order for buses to load and unload passengers without blocking the proposed bicycle lane or travel lane and impacting travel time or transit operation. Removing two pole stops would also reduce potential conflict points between buses and bicyclists by eliminating the interaction between buses and bicyclists at these stops.

Therefore, there would be no significant impacts on transit capacity, transit operation, and travel time as well as the interactions between buses and bicyclists as a result of Project 6-4.

PARKING

There are a total of approximately 70 existing on-street parking spaces on both sides of Laguna Honda Boulevard between Portola Drive and Woodside Avenue. Due to the conversion of the three existing pole stops into one bus zones along Laguna Honda Boulevard between Portola

Drive and Vasquez Avenue and other modifications, 13 on-street parking spaces would be removed. On-street parking occupancy is less than 50 percent utilized during the midday period between Portola Drive and Woodside Avenue. This is a single-family residential community and residences have off-street parking in driveways and garages. The lost of 13 on-street parking spaces can be adequately accommodated with the changes proposed by Project 6-4. Therefore, there would be no significant parking impacts with implementation of Project 6-4.

PEDESTRIAN

Pedestrian volumes are generally low, and there would be no changes in sidewalk width or crosswalk layout. The interactions between pedestrians and bicyclists would not change as a result of Project 6-4. Therefore, there would be no pedestrian impacts with the implementation of Project 6-4.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. Therefore, Project 6-4 would not result in a significant impact to bicyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This area has mostly residential uses, which typically do not have an on-street loading demand that would conflict with bicyclists. There were no double-parked vehicles or significant loading needs observed in the field, and Project 6-4 would not change the on-street and off-street parking spaces. Therefore, there would be no loading impacts as a result of Project 6-4.

PROJECT 6-5: PORTOLA DRIVE BICYCLE LANES, CORBETT AVENUE TO O'SHAUGHNESSY BOULEVARD

Project 6-5 would add a Class II bicycle lane in both directions between Corbett Avenue and O'Shaughnessy Boulevard. In the eastbound direction, a travel lane would be removed from O'Shaughnessy Boulevard to 300 feet westerly and by narrowing travel lanes from 300 feet east of O'Shaughnessy Boulevard to 215 feet west of Corbett Avenue. In the westbound direction, Project 6-5 would narrow travel lanes from Corbett Avenue to Burnet Avenue and remove one travel lane approaching Clipper Street and a westbound left-turn lane approaching O'Shaughnessy Boulevard. Approximately four on-street parking spaces would be removed and 15 spaces would be gained on this segment.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the AM and PM peak hour.

One study intersection is included in Project 6-5 for the AM peak period.

Intersection 37: Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive

The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection is common to Projects 6-5 and 6-6 within the Cluster 6 area. Only one design option is proposed under Project 6-5. However, two design options are proposed for Project 6-6. For Project 6-5, Option 1 proposes the removal of an exclusive left-turn lane in the westbound direction. For Project 6-6, Option 1 proposes the removal of a through lane in the eastbound direction. Option 2 has the same lane configuration as Existing (No Project) conditions. The analysis below reflects the combined impact of implementing Projects 6-5 and 6-6 at this intersection. The impacts resulting from the implementation of Project 6-5 alone will follow the discussion of the combined impacts.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 6-5 and 6-6 combined – AM Analysis

  For combined Projects 6-5 and 6-6, under Existing conditions, this intersection operates at LOS E in the AM Peak hour with 60.1 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions. The eastbound lane configuration would be modified from two through lanes, one exclusive left-turn lane, and one shared through-right turn lane to one through lane, one exclusive left-turn lane, and one shared through-right turn lane. The westbound lane configuration would be modified from two exclusive left-turn lanes, two through lanes, and one exclusive right-turn lane to one exclusive left-turn lane, two through lanes, and one exclusive right-turn lane. Due to the reduction of capacity in the eastbound direction and westbound direction, there would be an increase in delay along these approaches. Because the eastbound and westbound critical movements at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P6-5a) would occur at this intersection with implementation of Projects 6-5 and 6-6 combined Option 1. Table V.6-10, p. V.A.3-556, summarizes these results.

TABLE V.6-10
CLUSTER 6 – PROJECTS 6-5 AND 6-6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR WOODSIDE AVENUE/O'SHAUGHNESSY BOULEVARD/PORTOLA DRIVE EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

Existing		Existing plus Project Option 1				Existing plus Project Option 2			
		Project 6-5		Combined Projects 6-5 and 6-6		Project 6-5		Combined Projects 6-5 and 6-6	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
60.1	E	69.8	E	>80	F	-	-	60.1	E

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Existing and Existing plus Project Conditions for Projects 6-5 and 6-6 combined – PM Analysis

For combined Projects 6-5 and 6-6 in the PM Peak Hour, under Existing conditions, this intersection operates at LOS F with more than 80 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions. The eastbound lane configuration would be modified from two through lanes, one exclusive left-turn lane, and one shared through-right turn lane to one through lane, one exclusive left-turn lane, and one shared through-right turn lane. The westbound lane configuration would be modified from two exclusive left-turn lanes, two through lanes, and one exclusive right-turn lane to one exclusive left-turn lane, two through lanes, and one exclusive right-turn lane. Due to the reduction of capacity in the eastbound direction and westbound direction, there would be an increase in delay along these approaches. Because the eastbound critical movements at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P6-5e) would occur at this intersection with implementation of Projects 6-5 and 6-6 combined Option 1. Table V.6-11, p. V.A.3-557, summarizes these results.

TABLE V.6-11
CLUSTER 6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR WOODSIDE AVENUE/O'SHAUGHNESSY BOULEVARD/PORTOLA DRIVE EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

Existing		Existing plus Project Option 1				Existing plus Project Option 2			
		Project 6-5		Combined Projects 6-5 and 6-6		Project 6-5		Combined Projects 6-5 and 6-6	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	**F**	>80	**F**	>80	**F**	-	-	>80	**F**

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-5 and 6-6 combined – AM Analysis

For combined Projects 6-5 and 6-6, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F in the AM Peak Hour, with more than 80 seconds of average delay under 2025 Cumulative conditions. This intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Deterioration of the eastbound and westbound critical movements at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive to LOS F, when comparing Existing plus Project to Existing conditions, is deemed a significant impact. As a consequence, a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P6-5b) would occur at this intersection with implementation of Projects 6-5 and 6-6 combined Option 1. Table V.6-12, p. V.A.3-558, summarizes these results.

TABLE V.6-12
CLUSTER 6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR WOODSIDE AVENUE/O'SHAUGHNESSY BOULEVARD/PORTOLA DRIVE 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 6-5		Combined Projects 6-5 and 6-6		Project 6-5		Combined Projects 6-5 and 6-6	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	F	>80	F	>80	F	-	-	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-5 and 6-6 combined – PM Analysis

For combined Projects 6-5 and 6-6 in the PM Peak Hour, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. This intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. Deterioration of the eastbound critical movement at Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive to LOS F, when comparing Existing plus Project to Existing conditions, is deemed a significant impact. As a consequence, a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P6-5f) would occur at this intersection with the implementation of Projects 6-5 and 6-6 combined Option 1. Table V.6-13, p. V.A.3-559, summarizes these results.

TABLE V.6-13
CLUSTER 6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR WOODSIDE AVENUE/O'SHAUGHNESSY BOULEVARD/PORTOLA DRIVE 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 6-5		Combined Projects 6-5 and 6-6		Project 6-5		Combined Projects 6-5 and 6-6	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	F	>80	F	>80	F	-	-	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 6-5 and 6-6 combined – AM Analysis

Under Existing conditions, this intersection operates at LOS E with 60.1 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS E, with 60.1 seconds of delay under Existing plus Project conditions. However, there are no lane configuration adjustments to this intersection under Existing plus Project conditions relative to Existing conditions. Hence, there is no change in LOS or delay at this intersection. Thus, Projects 6-5 and 6-6 combined would not cause a significant impact at the Burnett Avenue/Clipper Street/Portola Drive intersection under Existing plus Project conditions. Table V.6-10, p. V.A.3-556, summarizes these results.

Existing and Existing plus Project Conditions for Projects 6-5 and 6-6 combined – PM Analysis

For the combined Project 6-5 and 6-6 in the PM Peak Hour, under Existing conditions, this intersection operates at LOS F with more than 80 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions. However, there are no lane configuration adjustments to this intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay at this intersection. Thus, Projects 6-5 and 6-6 combined Option 2 would not cause a significant impact at the Burnett Avenue/Clipper

Street/Portola Drive intersection under Existing plus Project conditions. Table V.6-11, p. V.A.3-557, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-5 and 6-6 combined – AM Analysis

For the combined Project 6-5 and 6-6, under 2025 Cumulative conditions, this intersection operates at LOS F with more than 80 seconds of delay in the AM Peak Hour. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to this intersection under 2025 Cumulative plus Project conditions, relative to 2025 Cumulative conditions. Hence, there would be no change in LOS or delay at this intersection. Thus, Projects 6-5 and 6-6 combined Option 2 would not cause a significant impact at the Burnett Avenue/Clipper Street/Portola Drive intersection under 2025 Cumulative plus Project conditions. Table V.6-12, p. V.A.3-558, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-5 and 6-6 combined – PM Analysis

For the combined Project 6-5 and 6-6 in the PM Peak Hour, under 2025 Cumulative conditions, this intersection operates at LOS F with more than 80 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to this intersection under 2025 Cumulative plus Project conditions relative to 2025 Cumulative conditions. Hence, there would be no change in LOS or delay at this intersection. Thus, Projects 6-5 and 6-6 combined Option 2 would not cause a significant impact at the Burnett Avenue/Clipper Street/Portola Drive intersection under 2025 Cumulative plus Project conditions. Table V.6-13, p. V.A.3-559, summarizes these results.

Existing and Existing plus Project Conditions for Project 6-5 alone – AM Analysis

Under Existing conditions, in the AM Peak hour, this intersection operates at LOS E with 60.1 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS E, with 69.8 seconds of average delay under Existing plus Project conditions. The westbound lane configuration would be modified from two exclusive left-turn lanes, two through lanes, and one exclusive right-turn lane to one exclusive left-turn lane, two through lanes, and one exclusive right-turn lane. Due to the reduction of capacity in the westbound direction, there would be an increase in delay along this approach. Because the eastbound and westbound critical movements at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant

impact (Significant Impact TR-P6-5c) would occur at this intersection with implementation of Project 6-5. Table V.6-10, p. V.A.3-556, summarizes these results.

Existing and Existing plus Project Conditions for Project 6-5 alone – PM Analysis

For Project 6-5 by itself in the PM Peak Hour, under Existing conditions, this intersection operates at LOS F with more than 80 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. The westbound lane configuration would be modified from two exclusive left-turn lanes, two through lanes, and one exclusive right-turn lane to one exclusive left-turn lane, two through lanes, and one exclusive right-turn lane. Due to the reduction of capacity in the westbound direction, there would be an increase in delay along this approach. Because the eastbound critical movement at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection either deteriorates or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P6-5g) would occur at this intersection with implementation of Project 6-5. Table V.6-11, p. V.A.3-557, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 6-5 alone – AM Analysis

For Project 6-5, by itself, in the AM Peak Hour, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. This intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. The westbound lane configuration would be modified from two exclusive left-turn lanes, two through lanes, and one exclusive right-turn lane to one exclusive left-turn lane, two through lanes, and one exclusive right-turn lane. Deterioration of the eastbound and westbound critical movements at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive for Existing plus Project to LOS F relative to Existing conditions is deemed a significant impact. As a consequence, a corresponding LOS deterioration is expected at this intersection, for 2025 Cumulative plus Project conditions, when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P6-5d) would occur at this intersection with the implementation of Projects 6-5. Table V.6-12, p. V.A.3-558, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 6-5 alone – PM Analysis

For Project 6-5 by itself in the PM Peak Hour, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. This intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. The westbound lane configuration would be

modified from two exclusive left-turn lanes, two through lanes, and one exclusive right-turn lane to one exclusive left-turn lane, two through lanes, and one exclusive right-turn lane. Deterioration of the eastbound and westbound critical movements at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive to LOS F, when comparing Existing plus Project to Existing conditions, is deemed a significant impact. As a consequence, a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P6-5h) would occur at this intersection with the implementation of Projects 6-5. Table V.6-13, p. V.A.3-559, summarizes these results.

Intersection 38: Burnett Street/Clipper Street/Portola Drive

- **Option 1**

Existing and Existing plus Project Conditions for Projects 6-2 and 6-5 combined
Please see Project 6-2 discussion on p. V.A.3-539

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-2 and 6-5 combined
Please see Project 6-2 discussion on p. V.A.3-539

- **Option 2**

Existing and Existing plus Project Conditions for Projects 6-2 and 6-5 combined
Please see Project 6-2 discussion on p. V.A.3-539

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-2 and 6-5 combined
Please see Project 6-2 discussion on p. V.A.3-539

Existing and Existing plus Project Conditions for Project 6-5 alone
For Project 6-5 by itself, under Existing conditions, this intersection operates at LOS D with 49.6 seconds of delay. The Burnett Avenue/Clipper Street/Portola Drive intersection would operate satisfactorily at LOS D, with 50.5 seconds of average delay under Existing plus Project conditions. The westbound lane configuration would be modified from one exclusive left-turn lane, two through lanes and a shared through-right lane to one exclusive left-turn lane, two through lanes and one shared through-right lane. No lane configuration changes are proposed for the other approaches relative to Existing conditions. Due to the reduction of capacity in the westbound direction, there would be an increase in delay along this approach. Since the intersection continues to operate at an acceptable LOS under Existing plus Project conditions, no significant impacts would occur at this intersection with the implementation of Project 6-5. Table V.6-14, p. V.A.3-563, summarizes these results.

TABLE V.6-14
CLUSTER 6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR BURNETT AVENUE/CLIPPER STREET/PORTOLA DRIVE EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

Existing		Existing plus Project Option 1				Existing plus Project Option 2			
		Project 6-5		Combined Projects 6-2 and 6-5		Project 6-5		Combined Projects 6-2 and 6-5	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
49.6	D	50.5	D	>80	F	-	-	49.6	D

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 6-5 alone

For Project 6-5 by itself in the PM Peak Hour, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate unsatisfactorily at LOS E, with 70.1 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS E, with 71.4 seconds of delay. The westbound lane configuration would be modified from one exclusive left-turn lane, two through lanes and a shared through-right lane to one exclusive left-turn lane, two through lanes and one shared through-right lane. No lane configuration changes are proposed for the other approaches relative to Existing conditions. Due to the reduction of capacity in the westbound direction, there would be an increase in delay along this approach. Since there is no change in LOS for the westbound critical movements under Existing plus Project conditions, a significant impact (Significant Impact TR-P6-5i) would occur at this intersection with the implementation of Project 6-5. Table V.6-15, p. V.A.3-564, summarizes these results.

TABLE V.6-15
CLUSTER 6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR BURNETT AVENUE/CLIPPER STREET/PORTOLA DRIVE 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 6-5		Combined Projects 6-2 and 6-5		Project 6-5		Combined Projects 6-2 and 6-5	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
70.1	E	71.4	E	>80	F	-	-	70.1	E

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Significant Impact TR-P6-5a (Projects 6-5 and 6-6 combined):

The intersection of Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive would operate at LOS F under Existing plus Project conditions for Option 1.

The intersection of Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive would operate at LOS F under Existing plus Project conditions for Option 2.

Under Existing conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS E with 60.1 seconds of delay for the AM peak hour. However, under Existing plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions on Portola Drive. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-5 for the AM peak hour.

Significant Impact TR-P6-5b (Projects 6-5 and 6-6 combined):

The intersection of Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay for the AM peak hour. However, under 2025 Cumulative plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions on Portola Drive. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-5 for the AM peak hour.

Significant Impact TR-P6-5c:

Under Existing conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS E with 60.1 seconds of delay for the AM peak hour. However, under Existing plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions on Portola Drive. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-5.

Significant Impact TR-P6-5d:

The intersection of Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay for the AM peak hour. However, under Existing plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions on Portola Drive. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-5.

Significant Impact TR-P6-5e (Projects 6-5 and 6-6 combined):

Under Existing conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay. Under Existing plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions on Portola Drive. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Projects 6-5 and 6-6 combined.

Significant Impact TR-P6-5f (Projects 6-5 and 6-6 combined):

Under 2025 Cumulative conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay. Under 2025 Cumulative plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions on Portola Drive. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Projects 6-5 and 6-6 combined.

Significant Impact TR-P6-5g:

Under Existing conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay. Under Existing plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the westbound direction on Portola Drive. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-5.

Significant Impact TR-P6-5h:

Under 2025 Cumulative conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay. Under 2025 Cumulative plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy

Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the westbound direction on Portola Drive. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-5.

Significant Impact TR-P6-5i:

Under Cumulative conditions, the Burnett Avenue/Clipper Street/Portola Avenue intersection operates at LOS E with 70.1 seconds of delay. Under 2025 Cumulative plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the westbound direction on Portola Drive. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-5.

TRANSIT

Muni bus lines 37, 48, and 52 operate along portions of Portola Drive between Corbett Avenue and O'Shaughnessy Boulevard. Muni bus line 37 runs in the westbound direction between Glenview Drive and Corbett Avenue with approximately four buses westbound during the AM and PM peak periods. Muni bus lines 48 and 52 operate in both directions between O'Shaughnessy Boulevard and Burnett Avenue with approximately nine buses each way during the AM and PM peak period and eight buses each way during the PM peak period. The segment between Glenview Drive and Burnett Avenue has the highest transit activity with approximately 13 westbound buses and nine eastbound buses during the AM peak period and nine buses each way during the PM peak period. There is one westbound and two eastbound bus stops along this segment.

Project 6-5 shares common intersections with Project 6-2: Clipper Street Bicycle Lanes, Douglass Street to Portola Drive (Intersection 38: Burnett Avenue/Clipper Street/Portola Drive) and with Project 6-6: Portola Drive Bicycle Lanes, O'Shaughnessy Boulevard/Woodside Avenue to Sloat Boulevard/St. Francis Boulevard (Intersection 37: Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive). The transit delay analysis below (Projects 6-2, 6-5, and 6-6 combined) reflects the combined impact of Projects 6-2, 6-5, and 6-6 modifications to the Burnett Avenue/Clipper Street/Portola Drive and Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersections on transit delay. This analysis is followed by the transit delay analysis for

(Projects 6-5 and 6-6 combined) for the combined impact of Projects 6-5 and 6-6 modifications to the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection on transit delay. The impacts resulting from the implementation of Project 6-5 (Project 6-5) without Projects 6-2 and 6-6 modifications to the two intersections will follow.

Existing plus Project Conditions (Projects 6-2, 6-5, and 6-6 Combined)

With Projects 6-2, 6-5, and 6-6 combined under Existing plus Project conditions, approximately 31 seconds of delay would be added in the eastbound direction; delay would be decreased in the westbound direction by approximately 132 seconds for each bus line for the PM peak period. The headways for Muni bus lines 37, 48, and 52 in the PM peak period are 15, 12 and 15 minutes, respectively; no total delay would be added with Project 6-5. Therefore, a significant transit impact would not occur with the implementation of Projects 6-2, 6-5, and 6-6 combined under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions (Projects 6-2, 6-5, and 6-6 Combined)

With Projects 6-2, 6-5, and 6-6 combined under 2025 Cumulative plus Project conditions, approximately 202 seconds (3.4 minutes) of delay would be added eastbound and approximately 428 seconds (7.1 minutes) of delay added westbound for the PM peak period. The total added delay for Muni bus line 37, which operates only in the eastbound direction, is 202 seconds (3.4 minutes) and would be less than the transit delay threshold of 6 minutes. For Muni bus lines 48 and 52, the total added delay of 630 seconds (10.5 minutes) would be greater than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would result to Muni bus lines 48 and 52 with implementation of Projects 6-2, 6-5, and 6-6 combined under 2025 Cumulative plus Project conditions.

COMBINED PROJECTS DISCUSSION

The transit delay analysis below (Projects 6-5 and 6-6 combined) reflects the combined impact of Projects 6-5 and 6-6 modifications to the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection on transit delay.

- **Option 1**
  Existing and Existing plus Project Conditions for Projects 6-2 and 6-5 combined
  Please see Project 6-2 discussion on p. V.A.3-539

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-2 and 6-5 combined

Please see Project 6-2 discussion on p. V.A.3-539

- **Option 2**

Existing and Existing plus Project Conditions for Projects 6-2 and 6-5 combined

Please see Project 6-2 discussion on p. V.A.3-539

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-2 and 6-5 combined

Please see Project 6-2 discussion on p. V.A.3-539

- **Option 1**

Existing plus Project Conditions (Projects 6-5 and 6-6 Combined)

With Option 1 under Existing plus Project conditions, approximately 35 seconds of delay would be added in the eastbound direction for the PM peak hour. This added delay would result from the removal of a travel lane in the eastbound direction between Evelyn Way and Woodside/O'Shaughnessy Boulevard and delays caused by eastbound bus line 48 stopping in the travel lane for passenger loading/unloading at the bus stop on the nearside of the Portola Drive/O'Shaughnessy Boulevard intersection. The headways for Muni bus lines 36, 43, and 48 are 20, 10 and 12 minutes, respectively; the total added delay of 35 seconds would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with the implementation of Projects 6-5 and 6-6 combined Option 1 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions (Projects 6-5 and 6-6 Combined)

With Option 1 under 2025 Cumulative plus Project conditions, approximately 212 seconds (3.5 minutes) of delay would be added in the eastbound direction for the PM peak hour. This added delay would result from the removal of a travel lane in the eastbound direction between Evelyn Way and Woodside/O'Shaughnessy Boulevard and delays caused by eastbound bus line 48 stopping in the travel lane for passenger loading/unloading at the bus stop on the nearside of the Portola Drive/O'Shaughnessy Boulevard intersection. The headways for Muni bus lines 36, 43, and 48 are 20, 10 and 12 minutes, respectively; the total added delay of 212 seconds (3.5 minutes) would be less than the transit delay threshold of 6 minutes. Therefore, a significant transit impact would not occur with the implementation of Projects 6-5 and 6-6 combined Option 1 under 2025 Cumulative plus Project conditions.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 6-5 and 6-6 combined

With Option 2 no travel lanes would be removed; impacts on transit service resulting from narrowing of travel lanes would be minor. Therefore, there would be no significant

impacts with Projects 6-5 and 6-6 combined Option 2 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-5 and 6-6 combined

With Option 2 no travel lanes would be removed; impacts on transit service resulting from narrowing of travel lanes would be minor. Therefore, there would be no significant impacts with Projects 6-5 and 6-6 combined Option 2 under 2025 Cumulative plus Project conditions.

Since there are no significant transit impacts under Existing plus Project and 2025 Cumulative plus Project conditions for either Option 1 or Option 2 of Projects 6-5 and 6-6 combined, there would be no significant transit impact from individual Project 6-6.

Existing and Existing plus Project Conditions for Project 6-5 alone

With Project 6-5 under Existing plus Project conditions, approximately 31 seconds of delay would be added in the eastbound direction; delay would be decreased in the westbound direction by approximately 132 seconds for each bus line for the PM Peak hour. The headways for Muni bus lines 37, 48, and 52 in the PM peak period are 15, 12 and 15 minutes, respectively; no total delay would be added with Project 6-5. Therefore, a significant transit impact would not occur with the implementation of Project 6-5 under Existing plus Project conditions.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 6-5 alone

With Project 6-5 under 2025 Cumulative plus Project conditions, approximately 202 seconds (3.4 minutes) of delay would be added eastbound and approximately 428 seconds (7.1 minutes) of delay added westbound for the PM peak period. The total added delay for Muni bus line 37, which operates only in the eastbound direction, would be less than the transit delay threshold of 6 minutes. For Muni bus lines 48 and 52, the total added delay of 630 seconds (10.5 minutes) would be greater than the transit delay threshold of 6 minutes. Therefore, a significant transit impact (Significant Impact TR-P6-5j and TR-P6-5k) would result to Muni bus lines 48 and 52 with implementation of Project 6-5 under 2025 Cumulative plus Project conditions.

Significant Impact TR-P6-5j (Projects 6-2, 6-5, and 6-6 combined):

Muni bus line 48 would experience significant delays under 2025 Cumulative plus Project conditions with Projects 6-2, 6-5, and 6-6 combined, under Option 1.

Significant Impact TR-P6-5k (Projects 6-2, 6-5, and 6-6 combined):

Muni bus line 52 would experience significant delays under 2025 Cumulative plus Project conditions with Projects 6-2, 6-5, and 6-6 combined, under Option 1.

PARKING

There are a total of approximately 60 on-street parking spaces on both sides of Portola Drive between Corbett and Burnett Avenues. On-street parking is not permitted on either side of the remaining portion of Portola Drive between Burnett Avenue/Diamond Heights Boulevard and O'Shaughnessy Boulevard. Project 6-5 would remove approximately four on-street parking spaces on the west side of Portola Drive on the far-side of Corbett Avenue, at a location where parking occupancy is relatively moderate. Project 6-5 would also revoke the Tow-Away No Stopping Anytime zone on the west side of Portola Drive on the nearside of Burnett Avenue and add 15 on-street parking spaces at this location. As a result of Project 6-5, a net total of 11 spaces would be gained. Therefore, there would be no significant parking impacts resulting from the implementation of Project 6-5.

PEDESTRIAN

Pedestrian volumes are generally low, and there would be no changes in sidewalk width or crosswalk layout. The interactions between pedestrians and bicyclists would not change as a result of Project 6-5. Therefore, there would be no pedestrian impacts as a result of Project 6-5.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. Hence, Project 6-5 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Portola Drive has mostly residential buildings, except near O'Shaughnessy Boulevard where there are commercial uses. On the south side of Portola Drive, retail businesses are located behind a row of metered parking, and loading activities occur within the parking lot area and would not be affected by the proposed bicycle lane. While there are relatively high volumes of vehicular traffic to and from the side streets, their access is regulated by traffic signals and would not conflict with bicycle traffic along Portola Drive. Therefore, there would be no significant loading impacts as a result of Project 6-5.

PROJECT 6-6: PORTOLA DRIVE BICYCLE LANES, O'SHAUGHNESSY BOULEVARD/WOODSIDE AVENUE TO SLOAT BOULEVARD/ST. FRANCIS BOULEVARD

There are two options for the portion of Portola Drive between Sloat and St. Francis Boulevards and O'Shaughnessy Boulevard and Woodside Avenue.

- **Option 1**
  Option 1 would add a bicycle lane between St. Francis and O'Shaughnessy Boulevards in the northeast direction by removing approximately 240 parking spaces between St. Francis Boulevard and Evelyn Way and by removing one travel lane between Evelyn Way and O'Shaughnessy Boulevard. Sharrows would be added in the southwest direction between Evelyn Way and Sloat Boulevard except for the segment between Laguna Honda Boulevard and Waithman Way where a bicycle lane would be added. Also in the southwest direction, a bicycle lane would be added between Woodside Avenue and Sydney Way/Fowler Avenue by removing one left-turn lane approaching Fowler Avenue.

- **Option 2**
  Option 2 would add a bicycle lane in the northeast direction from St. Francis Boulevard to Evelyn Way by narrowing travel lanes. This option would install sharrows in the northeast direction from Evelyn Way to O'Shaughnessy Boulevard. Sharrows would be added in the southwest direction between Woodside Avenue and Sloat Boulevard except for the segment between Laguna Honda Boulevard and Waithman Way where a bicycle lane would be added. There is no parking or lane removal associated with this option.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the AM and PM peak hour.

One study intersection is included in Project 6-6 for the AM peak period.

Intersection 37: Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive

The intersection is shared by Project 6-5 and 6-6. There analysis below reflects the impacts resulting from the impacts from the implementation of the combined projects. If no significant impacts would result from the implementation of the combined projects, then there would be no significant impact from the implementation of the individual project.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 6-5 and 6-6 combined – AM Analysis
  Please see Project 6-5 discussion on p. V.A.3-554

  Existing and Existing plus Project Conditions for Projects 6-5 and 6-6 combined – PM Analysis
  Please see Project 6-5 discussion on p. V.A.3-554

Existing and Existing plus Project Conditions for Project 6-6 alone – AM Analysis

For Project 6-6 by itself in the AM Peak Hour, under Existing conditions, this intersection operates at LOS E with 60.1 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration would be modified from one exclusive left-turn lane, two through lanes, and one shared through-right lane to one exclusive left-turn lane, one through lane, and one shared through-right lane. Due to the reduction of capacity in the eastbound direction, there would be an increase in delay along this approach. Because the eastbound critical movement at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection either deteriorates or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P6-6a) would occur at this intersection with implementation of Project 6-6 Option 1. Table V.6-16 below summarizes these results.

TABLE V.6-16
CLUSTER 6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR WOODSIDE AVENUE/O'SHAUGHNESSY BOULEVARD/PORTOLA DRIVE EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

Existing		Existing plus Project Option 1				Existing plus Project Option 2			
		Project 6-6		Combined Projects 6-5 and 6-6		Project 6-6		Combined Projects 6-5 and 6-6	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
60.1	E	>80	F	>80	F	60.1	E	60.1	E

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

Existing and Existing plus Project Conditions for Project 6-6 alone – PM Analysis

For Project 6-6 by itself in the PM Peak Hour, under Existing conditions, this intersection operates at LOS F with more than 80 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration would be modified from one exclusive left-turn lane, two through lanes, and one shared through-right lane to one exclusive left-turn lane, one through lane, and one shared through-right lane. Due to the reduction of capacity in the eastbound direction, there would be an increase in delay along this approach. Because the eastbound critical movement at the Woodside

Avenue/O'Shaughnessy Boulevard/Portola Drive intersection either deteriorates or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under Existing plus Project conditions, a significant impact (Significant Impact TR-P6-6c) would occur at this intersection with implementation of Project 6-6 Option 1. Table V.6-17 below summarizes these results.

TABLE V.6-17
CLUSTER 6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR WOODSIDE AVENUE/O'SHAUGHNESSY BOULEVARD/PORTOLA DRIVE EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

Existing		Existing plus Project Option 1				Existing plus Project Option 2			
		Project 6-6		Combined Projects 6-5 and 6-6		Project 6-6		Combined Projects 6-5 and 6-6	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	F	>80	F	>80	F	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-5 and 6-6 combined – AM Analysis

Please see Project 6-5 discussion on p. V.A.3-554

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-5 and 6-6 combined – PM Analysis

Please see Project 6-5 discussion on p. V.A.3-554

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 6-6 alone – AM Analysis

For Project 6-6 by itself in the AM Peak Hour, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. This intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. The eastbound lane configuration would be modified from one exclusive left-turn lane, two through lanes, and one shared through-right lane to one exclusive left-turn lane, one through lane, and one shared through-right lane. Deterioration of the eastbound critical movement at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive to LOS F, when comparing Existing plus Project to Existing conditions, is deemed a significant impact. As a consequence, a

corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P6-6b) would occur at this intersection with the implementation of Projects 6-6 Option 1. Table V.6-18, p. V.A.3-575, summarizes these results.

TABLE V.6-18
CLUSTER 6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR WOODSIDE AVENUE/O'SHAUGHNESSY BOULEVARD/PORTOLA DRIVE 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY AM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 6-6		Combined Projects 6-5 and 6-6		Project 6-6		Combined Projects 6-5 and 6-6	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	F	>80	F	>80	F	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 6-6 alone – PM Analysis

For Project 6-6 by itself in the PM Peak Hour, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. This intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. The eastbound lane configuration would be modified from one exclusive left-turn lane, two through lanes, and one shared through-right lane to one exclusive left-turn lane, one through lane, and one shared through-right lane. Deterioration of the eastbound critical movement at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive to LOS F, when comparing Existing plus Project to Existing conditions, is deemed a significant impact. As a consequence, a corresponding LOS deterioration is expected, at this intersection for 2025 Cumulative plus Project when compared to 2025 Cumulative conditions. Therefore, a significant impact (Significant Impact TR-P6-6d) would occur at this intersection with the implementation of Project 6-6 Option 1. Table V.6-19, p. V.A.3-576, summarizes these results.

TABLE V.6-19
CLUSTER 6
COMPARISON OF LEVEL OF SERVICE (LOS) AND AVERAGE DELAY FOR WOODSIDE AVENUE/O'SHAUGHNESSY BOULEVARD/PORTOLA DRIVE 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative plus Project Option 1				2025 Cumulative plus Project Option 2			
2025 Cumulative		Project 6-6		Combined Projects 6-5 and 6-6		Project 6-6		Combined Projects 6-5 and 6-6	
Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
>80	F	>80	F	>80	F	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.

- **Option 2**

Existing and Existing plus Project Conditions for Projects 6-5 and 6-6 combined – AM Analysis
Please see Project 6-5 discussion.

Existing and Existing plus Project Conditions for Projects 6-5 and 6-6 combined – PM Analysis
Please see Project 6-5 discussion.

Existing and Existing plus Project Conditions for Project 6-6 alone – AM Analysis
For Project 6-6 by itself in the AM Peak Hour, under Existing conditions, this intersection operates at LOS E with 60.1 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS E, with 60.1 seconds of delay under Existing plus Project conditions. However, there are no lane configuration adjustments to this intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay at this intersection. Thus, Project 6-6 Option 2 would not cause a significant impact at the Burnett Avenue/Clipper Street/Portola Drive intersection under Existing plus Project conditions. Table V.6-16, p. V.A.3-573, summarizes these results.

Existing and Existing plus Project Conditions for Project 6-6 alone – PM Analysis
For Project 6-6 by itself in the PM Peak Hour, under Existing conditions, this intersection operates at LOS F with more than 80 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate

unsatisfactorily at LOS F, with more than 80 seconds of delay under Existing plus Project conditions. However, there are no lane configuration adjustments to this intersection under Existing plus Project conditions relative to Existing conditions. Hence, there would be no change in LOS or delay at this intersection. Thus, Project 6-6 Option 2 would not cause a significant impact at the Burnett Avenue/Clipper Street/Portola Drive intersection under Existing plus Project conditions. Table V.6-17, p. V.A.3-574, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-5 and 6-6 combined – AM Analysis

Please see Project 6-5 discussion.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 6-5 and 6-6 combined – PM Analysis

Please see Project 6-5 discussion.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 6-6 alone – AM Analysis

For Project 6-6 by itself in the AM Peak Hour, under 2025 Cumulative conditions, this intersection operates at LOS F with more than 80 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to this intersection under 2025 Cumulative plus Project conditions relative to 2025 Cumulative conditions. Hence, there would be no change in LOS or delay at this intersection. Thus, Project 6-6 Option 2 would not cause a significant impact at the Burnett Avenue/Clipper Street/Portola Drive intersection under 2025 Cumulative plus Project conditions. Table V.6-18, p. V.A.3-575, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 6-6 alone – PM Analysis

For Project 6-6 by itself in the PM Peak Hour, under 2025 Cumulative conditions, this intersection operates at LOS F with more than 80 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would continue to operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions. However, there are no lane configuration adjustments to this intersection under 2025 Cumulative plus Project conditions relative to 2025 Cumulative conditions. Hence, there would be no change in LOS or delay at this intersection. Thus, Project 6-6 Option 2 would not cause a significant impact at the Burnett Avenue/Clipper Street/Portola Drive intersection under 2025 Cumulative plus Project conditions. Table V.6-19, p. V.A.3-576, summarizes these results.

Intersection 57: Evelyn Street/Portola Avenue

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 29.3 seconds of delay. The Evelyn Street/Portola Avenue intersection would continue to operate satisfactorily at LOS C, with 29.3 seconds of average delay under Existing plus Project conditions. There are no lane configuration changes at the intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Thus, Project 6-6 Option 1 would not cause a significant impact to this intersection under Existing plus Project conditions. Please see Table V.6-20, p. V.A.3-579, for these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Evelyn Street/Portola Avenue intersection would operate satisfactorily at LOS D in the PM Peak Hour, with 51.8 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate satisfactorily at LOS D, with 51.8 seconds of delay. Since there would be no change in LOS or delay for this intersection, compared to 2025 Cumulative conditions, a significant impact would not result at this intersection with the implementation of Project 6-6 Option 1. Table V.6-21, p. V.A.3-579, summarizes these results.

- **Option 2**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 29.3 seconds of delay The Evelyn Street/Portola Avenue intersection would operate satisfactorily at LOS C, with 29.3 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to the intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Thus, Project 6-6 Option 2 would not cause a significant impact to the Evelyn Street/Portola Avenue intersection under Existing plus Project conditions. Table V.6-20, p. V.A.3-579, below summarizes these results.

TABLE V.6-20
CLUSTER 6 – PROJECT 6-6[c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
37.	Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive[c]	>80	F	>80	F	>80	F
57.	Evelyn Street/Portola Avenue	29.3	C	29.3	C	29.3	C
58.	Fowler Street/Portola Avenue	20	C	23.6	C	20	C

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. Intersection 37 is common to both Projects 6-5 and 6-6.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The Evelyn Street/Portola Avenue intersection would operate satisfactorily at LOS D in the PM Peak Hour, with 51.8 seconds of delay under 2025 Cumulative plus Project conditions. Since there would be no change in LOS or delay for this intersection, compared to 2025 Cumulative conditions, a significant impact would not result at this intersection with the implementation of Project 6-6 Option 2. Table V.6-21, p. V.A.3-579, summarizes these results.

TABLE V.6-21
CLUSTER 6 – PROJECT 6-6[c]
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND 2025 CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project			
				Option 1		Option 2	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
37.	Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive[c]	>80	F	>80	F	>80	F
57.	Evelyn Street/Portola Avenue	51.8	D	51.8	D	51.8	D
58.	Fowler Street/Portola Avenue	>80	F	>80	F	>80	F

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions highlighted in bold.
c. Intersection 37 is common to both Projects 6-5 and 6-6.

Intersection 58: Fowler Street/Portola Avenue

- **Option 1**

Existing and Existing plus Project Conditions
Under Existing conditions, this intersection operates at LOS C with 29.3 seconds of delay. The Fowler Street/Portola Avenue intersection would operate satisfactorily at LOS C, with 23.6 seconds of average delay under Existing plus Project conditions. The eastbound lane configuration would be modified from two through lanes and one shared through-right turn lane to one through lane and one shared through-right turn lane. The westbound lane configuration would be modified from two left-turn lanes, one through lane, and one shared through-right turn lane to one exclusive left-turn lane, one through lane, and one shared through-right turn lane. Due to the reduction of capacity in the eastbound direction and westbound direction, there would be an increase in delay. The average intersection delay would increase by 3.6 seconds. Therefore, Project 6-6 Option 1 would not cause a significant traffic impact at the Fowler Street/Portola Avenue intersection under Existing plus Project conditions. Please see Table V.6-20, p. V.A.3-579, for results.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Fowler Street/Portola Avenue intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, this intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay. Because the eastbound and westbound critical movements at the Fowler Street/Portola Avenue intersection either deteriorate or would operate at an unacceptable LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions, a significant impact (Significant Impact TR-P 6-6e) would occur at this intersection with implementation of Project 6-6 Option 1. Table V.6-21, p. V.A.3-579, summarizes these results.

- **Option 2**

Existing and Existing plus Project Conditions
The Fowler Street/Portola Avenue intersection would operate satisfactorily at LOS C, with 20 seconds of average delay under Existing plus Project conditions. There are no lane configuration changes at the intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Thus, Project 6-6 Option 2 would not cause a significant impact to the Fowler Street/Portola Avenue intersection under Existing plus Project conditions. Table V.6-20, p. V.A.3-579, summarizes these results.

2025 Cumulative and 2025 Cumulative plus Project Conditions
The Fowler Street/Portola Avenue intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions.

However, there are no lane configuration adjustments to the study intersection under 2025 Cumulative plus Project conditions; therefore, there would be no change in LOS or delay for this intersection. Thus a significant impact would not occur at this intersection with the implementation of Project 6-6 Option 2. Table V.6-21, p. V.A.3-579, summarizes these results.

Significant Impact TR-P6-6a:

Under Existing conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS E with 60.1 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions as a result of the lane configuration changes in the eastbound direction on Portola Drive. Because the eastbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-6.

Significant Impact TR-P6-6b:

The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. This intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions as a result of the lane configuration changes in the eastbound direction on Portola Drive. Because the eastbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-6.

Significant Impact TR-P6-6c:

Under Existing conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions as a result of the lane configuration changes in the eastbound direction on Portola Drive. Because the eastbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-6.

Significant Impact TR-P6-6d:

Under 2025 Cumulative conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions as a result of the lane configuration changes in the eastbound direction on Portola Drive. Because the eastbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-6.

Significant Impact TR-P6-6e:

Under 2025 Cumulative conditions, this intersection would operate at LOS F with a V/C ratio of 0.49. However, under 2025 Cumulative plus Project conditions for Option 1, the Fowler Street/Portola Avenue intersection would operate at LOS F with a V/C ratio of 0.70 as a result of the lane configuration changes to the eastbound and westbound directions. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-6.

TRANSIT

Muni bus lines 36, 43, and 48 run along portions of Portola Drive between Vicente Street/Santa Clara Avenue and O'Shaughnessy Boulevard. Bus frequency varies with approximately five buses per hour each way between Vicente Street/Santa Clara Avenue and Miraloma Way (Muni bus line 48), 11 buses per hour between Miraloma Drive and Laguna Honda Boulevard (Muni bus lines 43 and 48) and eight buses per hour between Laguna Honda Boulevard and O'Shaughnessy Boulevard (Muni bus lines 36 and 48) during the AM and PM peak periods.

There are five bus stops in the eastbound direction and four bus stops in the westbound direction. The section of Portola Drive between Fowler Street and O'Shaughnessy Boulevard has a shopping center on the south side and a bus stop on both sides of O'Shaughnessy Boulevard. Four of the stops are pole stops and approximately half of them have on-street parking at the curb. Thus, the buses have to use the travel lane next to the parking lane to load and unload passengers. Passenger demand is low in this area; consequently not all buses stop at these pole stops. The remaining stops either have an exclusive loading platform (eastbound at

O'Shaughnessy) or have a bus zone. Buses loading passengers at these stops typically operate entirely within the bus zone, and do not encroach upon the adjacent moving lane.

Because overall parking occupancy between Vicente Drive and O'Shaughnessy Boulevard is relatively low and existing curb lanes are 14 feet wide in both directions No bunching of Muni buses was observed.[25] Because both Muni bus and bicycle volumes in this corridor are relatively low and no conflicts were observed between bicyclists and loading/unloading buses. Bicyclists typically use the general traffic lane to pass stopped buses on the right.

Project 6-6 shares a common intersection (Intersection 37: Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive) with Project 6-5: Portola Drive Bicycle Lanes, Corbett Avenue to O'Shaughnessy Boulevard. The transit delay analysis under Projects 6-5 and 6-6 combined, pp. V.A.3-555 and V.A.3-559, reflects the combined impact of Projects 6-5 and 6-6 modifications to the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection on transit delay.

- **Option 1**

  Existing and Existing plus Project Conditions for Projects 6-5 and 6-6 combined
  Please see the discussion of the combined project impacts under Project 6-5 on p. V.A.3-555.

- **Option 2**
  Existing and Existing plus Project Conditions for Projects 6-5 and 6-6 combined
  Please see the discussion of the combined project impacts under Project 6-5 on p. V.A.3-559.

  2025 Cumulative and 2025 Cumulative plus Project Conditions for Project 6-5 and 6-6 combined
  Please see the discussion of the combined project impacts under Project 6-5 on p. V.A.3-560.

Since there are no significant transit impacts under Existing plus Project conditions and 2025 Cumulative plus Project conditions for either Option 1 or Option 2 of Projects 6-5 and 6-6 combined, there would be no significant transit impact from individual Project 6-6.

[25] Field surveys were conducted by CHS Consulting on Wednesday, December 19, 2007 during the PM peak.

PARKING

- **Option 1**
  Option 1 would remove approximately 240 parking spaces on the south side of Portola Drive between Sloat Boulevard and Evelyn Way. Vehicles that typically park along the south side of Portola Drive primarily belong to local residents, except for commuter parking near the West Portal Muni Metro Station and West Portal Avenue. This section of Portola Drive is more than one mile in length. On-street parking occupancy along the majority of Portola Drive and side streets is low, except in the vicinity of the West Portal Muni Metro Station and West Portal Avenue which is moderate to high.

  Parking loss east of San Pablo Avenue could easily be accommodated by the cross streets or on the north side of the street. Between San Pablo Avenue and Sloat Boulevard, vehicles that currently park along the south side of Portola Drive belong to residents as well as employees and shoppers in the area and parking occupancy on the north side of the street is usually high. The removal of on-street parking in this area may potentially cause some of these vehicles to park on the adjacent neighborhood streets, raising concerns by the residents in the area.

  San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

  In San Francisco, parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social effects need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact. (CEQA Guidelines Section 15131(a).) The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor. There would be a substantial loss of parking. However, there would be no significant parking impacts with the implementation of Project 6-6 Option 1.

- **Option 2**
  Option 2 would not include the removal of on-street parking spaces. Therefore, there would be no parking impacts as a result of Project 6-6.

PEDESTRIAN

Pedestrian volumes along the mid-section of Portola Drive are low, but moderate at O'Shaughnessy Boulevard where retail and commercial uses are located and at the southern end near the West Portal Muni station. Most of the pedestrian activities at the northern end are between the stores and parked vehicles and most of the pedestrian activities at the southern end are to and parked vehicle and businesses along West Portal Avenue. There were no significant conflicts observed between pedestrians and bicyclists and there would be no proposed changes in sidewalk width or crosswalk layout as part of the proposed bicycle improvements. The existing pedestrian overpass over Portola Drive at Kensington Way provides safe crossing for pedestrians without interacting with bicycle movement, and would not be changed as a result of Project 6-6. Therefore, there would be no pedestrian impacts as a result of Project 6-6 with either Option 1 or Option 2.

BICYCLE

Bicycle volumes along Portola Drive are generally low. The installation of sharrows would increase the motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone'. The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. Under Option 2, the segment between Sloat Boulevard and Evelyn Way would have a five-foot eastbound bicycle lane between a seven-foot wide parking lane and a 10-foot wide travel lane. Since the width of typical on-street parking spaces is usually eight feet, eastbound bicyclists would have to be cautious of the suddenly opened car doors in the "door zone." Because the turnover rate of parked vehicles at this location is low, this impact would not be significant. The proposed

bicycle facilities under both options would generally benefit bicyclists. Therefore, Project 6-6 with either Option 1 or Option 2 would not result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of Portola Drive has mostly residential buildings, except the segment between Evelyn Way and O'Shaughnessy Boulevard, where there is a shopping center on the south side and a gas station on the north side at the intersection with O'Shaughnessy Boulevard. Loading activity for the segment of Portola Drive between Evelyn Way and O'Shaughnessy Boulevard occurs within the surface parking lot in front of the stores, not along Portola Drive. There were no double-parked trucks or significant loading needs observed[26] in the segment of Portola Drive with residential buildings. Project 6-6 would not remove any on-street loading spaces. However, the removal of on-street parking spaces on the south side of Portola Drive between Sloat Boulevard and Evelyn Way would force delivery vehicles to use side streets to make deliveries. Since loading activities in this section of Portola Avenue is associated with residential use, thus, the volumes are low. In addition, loading activity in the bicycle lane is permitted under the Vehicle Code. Therefore, there would be no significant loading impacts as a result of Project 6-6 with Option 1 or Option 2.

CLUSTER 6: SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Significant Impact TR-P6-2a (Projects 6-2 and 6-5 combined):

The intersection of Burnett Avenue/Clipper Street/Portola Drive would operate at LOS F under Existing plus Project conditions for Option 1.

Under Existing conditions, the Burnett Avenue/Clipper Street/Portola Drive intersection operates at LOS D with 49.6 seconds of delay. However, under Existing plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the northbound Clipper Street and westbound Portola Drive directions. Because the northbound and westbound critical movements deteriorate for Option 1 from LOS D under Existing conditions to LOS F with a corresponding deterioration in the V/C ratio for these movements, a

[26] Field surveys were conducted by CHS Consulting on Wednesday, December 19, 2007 during the midday.

significant impact would occur at this intersection with the implementation of Project 6-2 and 6-5 combined.

M-TR-P6-2a (Projects 6-2 and 6-5 combined):

No feasible mitigation measures have been identified for the Burnett Avenue/Clipper Street/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of Project 6-2 and 6-5 combined for Option 1 for the PM peak hour.

Significant Impact TR-P6-2b (Projects 6-2 and 6-5 combined):

The intersection of Burnett Avenue/Clipper Street/Portola Drive would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS E with 70.1 seconds of delay. However, under 2025 Cumulative plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration adjustments in the northbound Clipper Street and westbound Portola Drive directions. Because the northbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Projects 6-2 and 6-5 combined.

M-TR-P6-2b (Projects 6-2 and 6-5 combined):

No feasible mitigation measures have been identified for the Burnett Avenue/Clipper Street/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of Project 6-2 for Option 1 for the PM peak hour.

Significant Impact TR-P6-2c:

Under Existing conditions, the Burnett Avenue/Clipper Street/Portola Drive intersection operates at LOS D with 49.6 seconds of delay. However, under Existing plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the northbound Clipper Street direction. Because the northbound critical movements deteriorate for Option 1 from LOS D under Existing conditions to LOS F with a corresponding deterioration in

the V/C ratio for these movements, a significant impact would occur at this intersection with the implementation of Project 6-2 alone.

M-TR-P6-2c:

No feasible mitigation measures have been identified for the Burnett Avenue/Clipper Street/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of Project 6-2 for Option 1 for the PM peak hour.

Significant Impact TR-P6-2d:

Under 2025 Cumulative conditions, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS E with 70.1 seconds of delay. However, under 2025 Cumulative plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration adjustments in the northbound Clipper Street direction. Because the northbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of Project 6-2 alone.

M-TR-P6-2d:

No feasible mitigation measures have been identified for the Burnett Avenue/Clipper Street/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Burnett Avenue/Clipper Street/Portola Drive intersection with the implementation of Project 6-2 for Option 1 for the PM peak hour.

Significant Impact TR-P6-5a (Projects 6-5 and 6-6 combined):

The intersection of Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive would operate at LOS F under Existing plus Project conditions for Option 1.

The intersection of Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive would operate at LOS F under Existing plus Project conditions for Option 2.

Under Existing conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS E with 60.1 seconds of delay for the AM peak hour. However, under Existing plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound

directions on Portola Drive. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Projects 6-5 and 6-6 combined for Option 1 for the AM peak hour.

M-TR-P6-5a (Projects 6-5 and 6-6 combined):

No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Projects 6-5 and 6-6 combined for Option 1 for the AM peak hour.

Significant Impact TR-P6-5b (Projects 6-5 and 6-6 combined):

The intersection of Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay for the AM peak hour. However, under 2025 Cumulative plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions on Portola Drive. Because the eastbound and westbound critical movements deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Projects 6-5 and 6-6 combined for Option 1 for the AM peak hour.

M-TR-P6-5b (Projects 6-5 and 6-6 combined):

No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Projects 6-5 and 6-6 for Option 1 for the AM peak hour.

Significant Impact TR-P6-5c:

Under Existing conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS E with 60.1 seconds of delay for the AM peak hour. However, under Existing plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions on Portola Drive. Because the eastbound and westbound critical movements on Portola Drive deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-5.

M-TR-P6-5c:

No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Projects 6-5 for Option 1 for the AM peak hour.

Significant Impact TR-P6-5d:

The intersection of Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive would operate at LOS F under 2025 Cumulative plus Project conditions for Option 1.

Under 2025 Cumulative conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay for the AM peak hour. However, under Existing plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions on Portola Drive. Because the eastbound and westbound critical movements on Portola Drive deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-5.

M-TR-P6-5d:

No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy

Boulevard/Portola Drive intersection with the implementation of Projects 6-5 for Option 1 for the AM peak hour.

Significant Impact TR-P6-5e (Projects 6-5 and 6-6 combined):

Under Existing conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay. Under Existing plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions on Portola Drive. Because the eastbound and westbound critical movements on Portola Drive deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Projects 6-5 and 6-6 combined for Option 1.

M-TR-P6-5e (Projects 6-5 and 6-6 combined):

No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Projects 6-5 and 6-6 combined for Option 1 for the PM peak hour.

Significant Impact TR-P6-5f (Projects 6-5 and 6-6 combined):

Under 2025 Cumulative conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay. Under 2025 Cumulative plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the eastbound and westbound directions on Portola Drive. Because the eastbound and westbound critical movements on Portola Drive deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Projects 6-5 and 6-6 combined for Option 1.

M-TR-P6-5f (Projects 6-5 and 6-6 combined):

No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option

1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Projects 6-5 and 6-6 for Option 1 for the PM peak hour.

Significant Impact TR-P6-5g:

Under Existing conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay. Under Existing plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the westbound direction on Portola Drive. Because the eastbound and westbound critical movements on Portola Drive deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-5 for Option 1.

M-TR-P6-5g:

No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-5 for Option 1 for the PM peak hour.

Significant Impact TR-P6-5h:

Under 2025 Cumulative conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay. Under 2025 Cumulative plus Project conditions for Option 1, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the westbound direction on Portola Drive. Because the eastbound and westbound critical movements on Portola Drive deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-5 for Option 1.

M-TR-P6-5h:

No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy

Boulevard/Portola Drive intersection with the implementation of Project 6-5 for Option 1 for the PM peak hour.

Significant Impact TR-P6-5i:

Under Cumulative conditions, the Burnett Avenue/Clipper Street/Portola Drive intersection operates at LOS E with 70.1 seconds of delay. Under 2025 Cumulative plus Project conditions for Option 1, the Burnett Avenue/Clipper Street/Portola Drive intersection would operate at LOS F with a delay of more than 80 seconds as a result of the lane configuration changes in the westbound direction on Portola Drive. Because the eastbound and westbound critical movements deteriorate on Portola Drive for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-5 for Option 1.

M-TR-P6-5i:

No feasible mitigation measures have been identified for the Burnett Avenue/Clipper Street/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-5 for Option 1 for the PM peak hour.

Significant Impact TR-P6-5j (Projects 6-2, 6-5, and 6-6 combined):

Muni bus line 48 would experience significant delays under 2025 Cumulative plus Project conditions with Projects 6-2, 6-5, and 6-6 combined, under Option 1.

M-TR-P6-5j (Projects 6-2, 6-5, and 6-6 combined):

No feasible mitigation measure was identified and therefore the impact on Muni bus line 48 under 2025 Cumulative plus Project conditions would remain significant, under Option 1.

Significant Impact TR-P6-5k (Projects 6-2, 6-5, and 6-6 combined):

Muni bus line 52 would experience significant delays under 2025 Cumulative plus Project conditions with Projects 6-2, 6-5, and 6-6 combined, under Option 1.

M-TR-P6-5k (Projects 6-2, 6-5, and 6-6 combined):

No feasible mitigation measure was identified and therefore the impact on Muni bus line 52 under 2025 Cumulative plus Project conditions would remain significant, for Projects 6-2, 6-5, and 6-6 combined under Option 1.

Significant Impact TR-P6-6a:

Under Existing conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS E with 60.1 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions as a result of the lane configuration changes in the eastbound direction on Portola Drive. Because the eastbound critical movements on Portola Drive deteriorate for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-6 under Option 1.

M-TR-P6-6a (Project 6-6):

No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-6 alone for Option 1 for the AM peak hour.

Significant Impact TR-P6-6b:

The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative conditions. This intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of delay under 2025 Cumulative plus Project conditions as a result of the lane configuration changes in the eastbound direction on Portola Drive. Because the eastbound critical movements deteriorate on Portola Drive for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-6 alone under Option 1.

M-TR-P6-6b:

No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-6 for Option 1 for the AM peak hour.

Significant Impact TR-P6-6c:

Under Existing conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under Existing plus Project conditions as a result of the lane configuration changes in the eastbound direction on Portola Drive. Because the eastbound critical movements deteriorate on Portola Drive for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-6 alone under Option1.

M-TR-P6-6c:

No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive under Existing plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-6 for Option 1 for the PM peak hour.

Significant Impact TR-P6-6d:

Under 2025 Cumulative conditions, the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection operates at LOS F with more than 80 seconds of delay. The Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection would operate unsatisfactorily at LOS F, with more than 80 seconds of average delay under 2025 Cumulative plus Project conditions as a result of the lane configuration changes in the eastbound direction on Portola Drive. Because the eastbound critical movements deteriorate on Portola Drive for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-6 alone under Option 1.

M-TR-P6-6d:

No feasible mitigation measures have been identified for the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive intersection with the implementation of Project 6-6 for Option 1 for the PM peak hour.

Significant Impact TR-P6-6e:

Under 2025 Cumulative conditions, the Fowler Street/Portola Drive intersection would operate at LOS F with a V/C ratio of 0.49. However, under 2025 Cumulative plus Project conditions for Option 1, the Fowler Street/Portola Drive intersection would operate at LOS F with a V/C ratio of 0.70 as a result of the lane configuration changes to the eastbound and westbound directions of Portola Drive. Because the eastbound and westbound critical movements deteriorate on Portola Drive for Option 1 with a corresponding deterioration in the V/C ratio for these movements, a significant impact would occur at the Fowler Street/Portola Drive intersection with the implementation of Project 6-6 alone under Option 1.

M-TR-P6-6e:

No feasible mitigation measures have been identified for the Fowler Street/Portola Drive intersection under 2025 Cumulative plus Project conditions for Option 1. Hence a significant impact would occur at the Fowler Street/Portola Drive intersection with the implementation of Project 6-6 alone for Option 1 for the PM peak hour.

CLUSTER 7: UPPER SUNSET/RICHMOND/PRESIDIO/MARINA AREA[27]

This section provides a description of the Existing plus Project and 2025 Cumulative and 2025 Cumulative plus Project transportation conditions for the near-term improvements in Cluster 7. Two design options are proposed for Project 7-5; for the remaining near-term improvements in Cluster 7, only one option is proposed.

The Existing plus Project, 2025 Cumulative, and 2025 Cumulative plus Project turning movement traffic volumes at the study intersections within Cluster 7, the intersection lane configurations at those intersections, and the level of service and transit delay calculation sheets can be found in the TIS.

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[27] Unless otherwise indicated, all intersection analysis is for PM Peak Hour conditions.

PROJECT 7-1: INTERSECTION IMPROVEMENTS AT 7TH AVENUE AND LINCOLN WAY

The implemented portion of Project 7-1 involved the modification of the west side of the raised median at the intersection 7th Avenue and Lincoln Way by cutting back the median from the west crosswalk to 5 feet easterly to allow southbound bicyclists to cross Lincoln Way without riding in the crosswalk.

Project 7-1 would involve further modifications at the intersection of 7th Avenue and Lincoln Way to allow northbound bicyclists to cross Lincoln Way. These modifications would involve installing a cut-through in the center of the raised median for northbound bicyclists, installing a northbound bicycle lane, and installing a bicycle loop detector and a bicycle traffic signal for northbound bicyclists. Project 7-1 would involve the removal of nine parking spaces on the east side of 7th Avenue south of Lincoln Way. There are no travel lane removals associated with Project 7-1.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour.

One study intersection is included in Project 7-1 for the PM peak period. Table 3.7-4, p. V.A.3-543, summarizes these results.

The 7th Avenue/Lincoln Way intersection is common to Projects 7-1 and 7-2 within the Cluster 7 area. Project 7-1 would involve further modifications at the intersection of 7th Avenue and Lincoln Way to allow northbound bicyclists to cross Lincoln Way. These modifications would involve installing a cut-through in the center of the raised median for northbound bicyclists, installing a northbound bicycle lane, and installing a bicycle loop detector and a bicycle traffic signal for northbound bicyclists. Project 7-1 would involve the removal of nine parking spaces on the east side of 7th Avenue south of Lincoln Way. However, there is no through movement modifications to the southbound and northbound traffic movements for motor vehicles under either project. All northbound and southbound traffic except for bicycles are required to make a right turn onto Lincoln Way. Since the impacts of both Projects 7-1 and 7-2 in combination would not result in a significant traffic impact for the PM peak hour, there would be no significant traffic impact from individual Project 7-1. Therefore, the analysis below reflects the impacts of both projects.

Intersection 61: 7th Avenue/Lincoln Way

The 7th Avenue/Lincoln Way intersection is common to Projects 7-1 and 7-2 within the Cluster 7 area. Project 7-1 would involve further modifications at the intersection of 7th Avenue and Lincoln Way to allow northbound bicyclists to cross Lincoln Way. These modifications would involve installing a cut-through in the center of the raised median for northbound bicyclists, installing a northbound bicycle lane, and installing a bicycle loop detector and a bicycle traffic signal for northbound bicyclists. Project 7-1 would involve the removal of nine parking spaces on the east side of 7th Avenue south of Lincoln Way. However, there is no through movement modifications to the southbound and northbound traffic movements for motor vehicles under either project. All northbound and southbound traffic except for bicycles are required to make a right turn onto Lincoln Way. Since the impacts of both Projects 7-1 and 7-2 in combination would not result in a significant traffic impact for the PM peak hour, there would be no significant traffic impact from individual Project 7-1. Therefore, the analysis below reflects the impacts of both projects.

Existing and Existing plus Project Conditions for Projects 7-1 and 7-2 combined

Under Existing conditions, this intersection operates at LOS B with 12.5 seconds of delay. The 7th Avenue/Lincoln Way intersection would operate satisfactorily at LOS C in the PM Peak hour, with 21.2 seconds of average delay under Existing plus Project conditions. There are no lane configuration adjustments to this intersection under Existing plus Project conditions. Hence, there would be no change in LOS or delay for this intersection, compared to Existing conditions. Thus, Projects 7-1 and 7-2 combined would not cause a significant impact to the 7th Avenue/Lincoln Way intersection under Existing plus Project conditions. See Table V.7-4, p. V.A.3-598, for these results.

TABLE V.7-4
CLUSTER 7 – PROJECT 7-1
INTERSECTION LEVEL OF SERVICE AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

	Existing		Existing Plus Project	
Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS
61. 7th Avenue/Lincoln Way	12.5	B	21.2	C

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 7-1 and 7-2 combined

The 7th Avenue/Lincoln Way intersection would operate satisfactorily at LOS B, with an average delay of 15.3 seconds under 2025 Cumulative conditions. Under 2025 Cumulative plus Project conditions, the intersection would operate satisfactorily at LOS C, with 26.5 seconds of average delay. The lane configuration remains the same as under 2025 Cumulative conditions. Hence, there would be no change in LOS or delay at this intersection. Therefore, no significant impacts would occur at this intersection with the implementation of Projects 7-1 and 7-2 under 2025 Cumulative plus Project conditions. See Table V.7-5, below, for these results.

TABLE V.7-5
CLUSTER 7 – PROJECT 7-1
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS
61.	7th Avenue/Lincoln Way	15.3	B	26.5	C

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

TRANSIT

Muni bus lines 71, 71L, 16AX, and 16BX run in both directions along Lincoln Way. The buses do not turn onto 7th Avenue from Lincoln Way and thus, do not cross the median. Bicyclists crossing Lincoln Way southward onto 7th Avenue at the location of the median cutback without interacting with the east-west buses or changing transit operation. Therefore, there would be no significant transit impacts with implementation of Project 7-1.

PARKING

Project 7-1 would result in a net loss of approximately nine parking spaces. Parking occupancy along 7th Street is high during the midday and evening periods. The removal of nine parking spaces on 7th Street may potentially cause some of the vehicles to park on the adjacent neighborhood streets, raising concerns by the residents in this area.

In San Francisco, parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact under CEQA, but rather a social effect. The loss of parking may cause potential indirect physical effects, which would include drivers circling and looking for a parking space in neighboring. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to some drivers, aware of constrained parking conditions in a given area, shifting travel modes. Hence, any secondary environmental impacts that may result from a shortfall in parking would be minor. Therefore, there would be no significant parking impacts with implementation of Project 7-1.

PEDESTRIAN

Pedestrian volumes are generally low on weekdays and moderate during weekends. With Project 7-1 there would be no changes in sidewalk width or crosswalk layout. Project 7-1 would benefit pedestrians by providing a path that separates them from bicyclists and thus would reduce conflicts between them. Therefore, there would be no significant pedestrian impacts with implementation of Project 7-1.

BICYCLE

The separation of bicycle and pedestrian crossing and the separation of northbound bicycle traffic with the northbound right turn vehicles may result in a beneficial effect by minimizing conflicts between pedestrians, bicyclists and motor vehicles. In addition, Project 7-1 would allow northbound bicycle access to Golden Gate Park from 7th Avenue and provide a northbound bicycle lane. The installation of a bicycle lane would provide a clear right-of-way for use by bicyclists. Therefore, there would be no significant bicycle impacts with implementation of Project 7-1, but Project 7-1 could have the beneficial effect of improving roadway conditions and safety for cyclists.

LOADING

This intersection is located at an entrance to Golden Gate Park where there is no on-street loading demand that would conflict with bicyclists. There were no double-parked vehicles or significant loading needs observed[28] on the field. Therefore, there would be no loading impacts with implementation of Project 7-1.

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[28] Field surveys were conducted by CHS Consulting on Monday, November 26, 2007 during the midday.

PROJECT 7-2: 7TH AVENUE BICYCLE LANES, LAWTON STREET TO LINCOLN WAY

Project 7-2 would add a Class II bicycle lane in both directions on 7th Avenue between Lawton and Judah Streets, sharrows in both directions between Judah and Hugo Streets, and a center bicycle lane between Hugo Street and Lincoln Way. In order to add the Class II bicycle lanes, there would be a reduction of one travel lane in the southbound approach. Project 7-2 would remove one southbound travel lane between Lincoln Way and Lawton Street and add a two-way left-turn center lane between Lincoln Way and Judah Street.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour.

Two study intersections are included in Project 7-2 for the PM peak period.

Intersection 55: 7th Avenue/Kirkham Street

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS C with 22.3 seconds of delay. Due to the reduction of capacity in the southbound approach there would be an increase in delay along this approach. The average intersection delay would increase by 4.5 seconds. Overall, the 7th Avenue/Kirkham Street intersection would operate satisfactorily at LOS C, with 26.8 seconds of average delay under Existing plus Project conditions. Therefore, Project 7-2 would not cause a significant traffic impact at the 7th Avenue/Kirkham Street intersection under Existing plus Project conditions. Table V.7-6, p. V.A.3-601, summarizes these results.

TABLE V.7-6
CLUSTER 7 – PROJECT 7-2[b]
INTERSECTION LEVEL OF SERVICE AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS WEEKDAY PM PEAK HOUR

		Existing		Existing plus Project	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS
55.	7th Avenue/Kirkham Street	22.3	C	26.8	C
61.	7th Avenue/Lincoln Way [b]	12.5	B	21.2	C

Source: Wilbur Smith Associates, October 2008.

Notes:

a. Delay in seconds per vehicle.
b. LOS and average delay for 7th Avenue/Lincoln Way for combined impacts of Projects 7-1 and 7-2.

2025 Cumulative and 2025 Cumulative plus Project Conditions

Under 2025 Cumulative conditions, the 7th Avenue/Kirkham Street intersection would operate at LOS F with more than 80 seconds of delay in the PM Peak Hour. The southbound lane configuration with Project 7-2 would be modified from one shared through-left turn lane and one shared through-right turn lane to one shared left-through-right turn lane. Due to the reduction in capacity of the southbound approach, the intersection would continue to operate at LOS F relative to 2025 Cumulative conditions. However, the LOS for the northbound, eastbound, and westbound critical movements improve at this intersection under 2025 Cumulative plus Project conditions. Therefore a significant impact would not result at this intersection with the implementation of Project 7-2. Table V.7-7, p. V.A.3-602 summarizes these results.

TABLE V.7-7
CLUSTER 1 – PROJECT 7-2
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project	
	Intersection	Average Delay[a]	LOS[b]	Average Delay[a]	LOS[b]
55.	7th Avenue/Kirkham Street	>80	**F**	>80	**F**
61.	7th Avenue/Lincoln Way	22.9	C	22.9	C

Source: Wilbur Smith Associates, October 2008

Notes:

a. Delay in seconds per vehicle.
b. Intersections operating at LOS E or LOS F conditions are highlighted in bold.

Intersection 61: 7th Avenue/Lincoln Way

Projects 7-1 and 7-2 would modify the intersection of 7th Avenue/Lincoln Way in different ways. Project 7-1 would add the northbound bicycle lane to the south of the intersections by keeping the two southbound lanes and eliminating nine parking spaces on the east side of the street. Project 7-2 would eliminate a southbound traffic lane, would create a center two-way left-turn lane, and would add a northbound bicycle lane, to the south of the intersection. Project 7-2 would create the two-way left turn lane starting approximately 40 feet south of the intersection to make room for the northbound bicycle lane.

There is no through movement modifications to the southbound and northbound traffic movements for motor vehicles under either project. All northbound and southbound traffic except for bicycles are required to make a right turn onto Lincoln Way.

Since the difference in the two proposals under Projects 7-1 and 7-2 is only in the southbound direction to the south of Lincoln Way, the LOS calculation for both proposals at the intersection would be the same and the combined impacts of the two projects would be the same as each individual project.

Existing and Existing plus Project Conditions for Projects 7-1 and 7-2 combined

Please see Project 7-1 discussion on p. V.A.3-597.

2025 Cumulative and 2025 Cumulative plus Project Conditions for Projects 7-1 and 7-2 combined

Please see Project 7-1 discussion on p. V.A.3-597.

TRANSIT

There are no transit lines on this segment of 7th Avenue. Therefore, there would be no transit impacts with implementation of Project 7-2.

PARKING

There would be no changes in parking layout or in the number of parking spaces in this segment. Therefore, there would be no parking impacts with implementation of Project 7-2.

PEDESTRIAN

Pedestrian volumes are generally low along 7th Avenue, and there would be no changes in sidewalk width or crosswalk layout. The interactions between pedestrians and bicyclists would not change as a result of Project 7-2. Therefore, there would be no pedestrian impacts with implementation of Project 7-2.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. In addition, the installation of sharrows would increase the motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway

outside the 'door zone'.[29] The separation of northbound bicycle traffic from the northbound right turn vehicles would reduce the potential conflict between right-turning vehicles and through bicyclists. Hence, Project 7-2 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This segment of 7th Avenue has mostly residential and some retail uses. While on-street parking occupancy in the project area is relatively high, there were no double-parked vehicles or significant loading needs observed[30] in the field; loading activity is generally accommodated in the on-street parking spaces. There would be no changes in on-street loading spaces. Therefore, there would be no loading impacts.

PROJECT 7-3: GREAT HIGHWAY AND POINT LOBOS AVENUE BICYCLE LANES, EL CAMINO DEL MAR TO CABRILLO STREET

Project 7-3 would add a Class II bicycle lane and remove one travel lane in both directions on Point Lobos Avenue between 48th Avenue/El Camino Del Mar and Balboa Street, except for the addition of sharrows on the south-eastbound segment of Point Lobos Avenue between the crosswalk at the Sutro Heights Park parking lot and Balboa Street. Project 7-3 would also add a striped median from approximately the Cliff House to the Sutro Heights Park parking lot. With a separate project proposed by the National Park Service, the existing parking lot on the north side of Point Lobos Avenue would be expanded and relocated eastward by approximately 200 feet by the Park Service to accommodate approximately 135 parking spaces. As part of Project 7-3, approximately 10 on-street parking spaces would be removed on the north side of Point Lobos Avenue, from the 48th Avenue intersection westward by approximately 200 feet to provide space for a right-turn lane into the proposed new parking lot.

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29 In February 2004, Alta Planning + Design completed a study, *San Francisco's Shared Lane Pavement Markings: Improving Bicycle Safety,* on shared lane markings for Class III bikeways in San Francisco. In this study, a key conclusion was that the pavement markings (also known as sharrow markings) increased the awareness of the bicyclists' and motorists' position on the road. Bicyclists tended to ride further from parked cars, and motorists tended to pass bicyclists at a greater distance from the pavement marking. The report's recommendation was to use the sharrow markings on appropriate shared lanes but not as a substitution for bicycle lanes where feasible.

30 Field surveys were conducted by CHS Consulting on Monday, November 26, 2007 during the midday.

Project 7-3 would also add a Class II bicycle lanes in both directions along the Great Highway between Balboa and Cabrillo Streets by narrowing the travel lanes. There would be no parking removal in this segment.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Intersection LOS calculations were performed for the PM peak hour.

One study intersection is included in Project 7-3 for the PM peak period.

Intersection 56: 48th Avenue/Point Lobos Avenue

Existing and Existing plus Project Conditions

Under Existing conditions, this intersection operates at LOS B with 10.7 seconds of delay. Due to the reduction of capacity in the southbound and westbound approaches and the lane configuration adjustment in the eastbound approach, there would be an increase in delay along these approaches. The intersection at 48th Avenue/Point Lobos Avenue would operate satisfactorily at LOS B, with 11.5 seconds of average delay (an increase by 0.8 seconds) under Existing plus Project conditions. Therefore, Project 7-3 would not cause a significant traffic impact to the intersection at 48th Avenue/Point Lobos Avenue under Existing plus Project conditions. Table V.7-8 below summarizes these results.

TABLE V.7-8
CLUSTER 7 – PROJECT 7-3
INTERSECTION LEVEL OF SERVICE AND AVERAGE DELAY – EXISTING AND EXISTING PLUS PROJECT CONDITIONS WEEKDAY PM PEAK HOUR

		Existing		Existing Plus Project	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS
56.	48th Avenue/Point Lobos Avenue	10.7	B	11.5	B

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

2025 Cumulative and 2025 Cumulative plus Project Conditions

The 48th Avenue/Point Lobos Avenue intersection would operate satisfactorily at LOS B in the PM Peak Hour, with 11.4 seconds of average delay under 2025 Cumulative conditions. Due to the reduction of capacity in the southbound and westbound approaches and the lane

configuration adjustment in the eastbound approach being proposed by the project, there would be an increase in delay along these approaches. In spite of these changes, the 48th Avenue/Point Lobos Avenue intersection would operate satisfactorily at LOS B, with 13 seconds of delay under 2025 Cumulative plus Project conditions. Therefore, there would not be a significant impact at this intersection resulting from the implementation of Project 7-3. Table V.7-9, p. V.A.3-606, summarizes these results.

TABLE V.7-9
CLUSTER 1 – PROJECT 7-3
INTERSECTION LEVEL OF SERVICE (LOS) AND AVERAGE DELAY – 2025 CUMULATIVE AND CUMULATIVE PLUS PROJECT CONDITIONS - WEEKDAY PM PEAK HOUR

		2025 Cumulative		2025 Cumulative plus Project	
	Intersection	Average Delay[a]	LOS	Average Delay[a]	LOS
56.	48th Avenue/Point Lobos Avenue	11.4	B	13.0	B

Source: Wilbur Smith Associates, October 2008.

Note:

a. Delay in seconds per vehicle.

TRANSIT

Muni bus line 18 operates in both directions along Point Lobos Avenue between the Great Highway and El Camino Del Mar, with approximately four buses per hour each way during the AM and PM peak periods. There are two westbound Muni bus stops, one on the far side of 48th Avenue/El Camino Del Mar and one located in front of the Golden Gate National Recreation Area west of Merrie Way. There are two eastbound bus stops, one on the nearside of the Sutro Heights Park parking lot entrance and one on the nearside of 48th Avenue/El Camino del Mar.

Project 7-3 would remove on-street parking on the north side of Point Lobos Avenue between El Camino Del Mar Avenue and approximately 200 feet westward; the parking lane would be changed to a right-turn only lane. This right-turn lane would lead into the new access driveway of the parking lot, which is a part of a separate project being proposed by the National Park Service. Buses would stop in the right-turn lane to load and unload passengers. Because bus volumes are low (one bus every 15 minutes) and the parking lot occupancy during the weekdays would be low, there would be no significant conflict between buses and right-turning vehicles. While parking demand at the new parking lot on some weekends would be high, it is not expected that the right turn lane would cause significant delays to Muni service.

The proposed eastbound bicycle lane would be striped along the curb on the south side of Point Lobos Avenue. When buses stop at the two eastbound Muni bus stops to board passengers, they would completely obstruct the bicycle lane and force bicyclists to pass to the left in the travel lane. This interaction between bicyclists and buses would not be different from current conditions, and would not affect transit capacity, transit operation, or travel time. Therefore, there would be no significant transit impacts with implementation of Project 7-3.

PARKING

Project 7-3 would remove approximately 10 on-street parking spaces on the north side of Point Lobos Avenue between 48th Avenue and approximately 200 feet westward. On-street parking occupancy in this area is generally low to moderate during the weekday midday, but substantially higher during weekends and in the evening. The proposed parking lot on the north side of Point Lobos Avenue would provide approximately 135 parking spaces that could accommodate the loss of on-street parking as a result of Project 7-3. There is occasional tour bus loading near the Cliff House although most tour buses travel slowly through the area without stopping, while others stop for a few minutes to allow passengers to disembark to take pictures. There is no designated tour bus parking in the area. Tour bus parking would be included in the new National Park Service parking lot with five saw tooth-type bus parking bays. This change would reduce conflicts between buses and bicyclists along Point Lobos Avenue. The loss of 10 on-street parking spaces would not cause a significant change in parking occupancy in the area particularly with the proposed National Park Service parking lot coming soon. Therefore, there would be no significant parking impacts with implementation of Project 7-3.

PEDESTRIAN

Pedestrian volumes are low during weekday midday and high during weekends and pedestrians generally stay on the north side of Point Lobos and typically do not walk on the south side. The reduction of travel lanes from two to one each way would increase pedestrian crossing safety at the crosswalks by reducing the number of potential conflict points between pedestrians and moving vehicles. The project proposed by the Park Service includes bulb-outs on the northwest, northeast, and southeast corners at the 48th Street/Point Lobos Avenue intersection. These corner bulb-outs would benefit pedestrians by decreasing the total crossing distance. The proposed bulb-out at the mid-block intersection would also decrease the crossing distance, and the raised center median would provide a refuge area for pedestrians crossing Point Lobos Avenue. Therefore, there would be no significant pedestrian impacts with implementation of Project 7-3.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. The eastbound bicycle lane would be interrupted by a Muni bus stop on the nearside of the existing Sutro Heights Park parking lot, but this would not represent a change from existing conditions. The installation of sharrows would increase the motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the "door zone". Hence, Project 7-3 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

Freight loading demand in this segment of the Great Highway/Point Lobos generally occurs during early morning hours when deliveries are made to the Cliff House Restaurant and the adjacent retail uses. They usually rely on the on-street parking spaces for loading needs, and there would be no changes to on-street or off-street parking in the vicinity of the Cliff House and nearby businesses. Passenger loading and tour bus activities would also not be affected by the changes proposed by Project 7-3. Therefore, there would be no significant loading impacts with implementation of Project 7-3.

PROJECT 7-4: JOHN F. KENNEDY DRIVE TO KEZAR DRIVE BICYCLE LANES, STANYAN STREET TO TRANSVERSE DRIVE

Project 7-4 would add a Class II bicycle lane in both directions on John F. Kennedy Drive between Kezar Drive and Transverse Drive by narrowing travel lanes and removing on-street parking on this segment. Project 7-4 would also add an eastbound Class II bicycle lane on Kezar Drive between John F. Kennedy Drive and Stanyan Street by converting the shoulder on the left side of the eastbound travel lanes adjacent to the raised median.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

There are no transit lines on John F. Kennedy Drive. Therefore, there would be no transit impacts with implementation of Project 7-4.

PARKING

Project 7-4 would remove approximately 81 on-street parking spaces on the north side of John F. Kennedy Drive and approximately 80 spaces on the south side. On-street parking demand is moderate to high during weekends, but parking is already prohibited on Saturdays and Sundays from April through September when the roadway is closed to motor vehicles. Also, there is an 800-space parking garage under the Golden Gate Park Music Concourse that could accommodate the additional parking demand generated by the removal of parking on John F. Kennedy Drive.

In San Francisco, parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact as under the CEQA but rather a social effect. The loss of parking may cause potential indirect physical effects, which would include cars circling and looking for a parking space in neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to some drivers, aware of constrained parking conditions in a given area, shifting travel modes. Hence, any secondary environmental impacts that may result from a shortfall in parking in the vicinity of the proposed project would be minor. Therefore, any net reduction in on-street parking supply with implementation of Project 7-4 would not result in significant parking impacts.

PEDESTRIAN

Pedestrian volumes are generally low during the weekday midday, but high on the weekend midday. Pedestrians in Golden Park tend to stroll slowly; when sidewalks are crowded and the street is closed to motor vehicle traffic, many pedestrians would walk in the roadway. While bicyclists and skaters would also be using the roadway, there is sufficient curb-to-curb width to safely accommodate all expected non-motorized traffic. Project 7-4 would not change sidewalk widths or crosswalks. Therefore, there would be no significant pedestrian impacts with implementation of Project 7-4.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. The removal of on-street parking would reduce the conflicts between bicyclists and vehicles accessing parking spaces, and would eliminate the hazard for bicyclists within the "door zone." Therefore, Project 7-4 would not result in a significant impact to bicyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This area is for recreational use only, and there is no freight loading demand. Therefore, there would be no significant loading impacts with implementation of Project 7-4.

PROJECT 7-5: KIRKHAM STREET BICYCLE LANES, 9TH AVENUE TO GREAT HIGHWAY

Project 7-5 would involve the installation of Class II bicycle lanes in both directions on Kirkham Street between 9th Avenue and Great Highway. Project 7-5 would be divided into six segments.

Segment I would include Kirkham Street between 9th Avenue and Funston Avenue, Kirkham Street between 17th Avenue and 18th Avenue, Kirkham Street between 20th Avenue and 36th Avenue, and Kirkham Street between 37th Avenue and Great Highway. The proposed option for this segment would involve installation of Class II bicycle lanes in both directions. The proposed option would not involve travel lane or parking removal.

Segment II would include Kirkham Street between Funston Avenue and 17th Avenue. The proposed option for this segment would involve installation of Class II bicycle lane s in both directions, with painted or raised pedestrian refuges added at the intersections. The proposal for this segment would not involve travel lane or parking removal. However, the travel lanes would be narrowed at the intersections to create the pedestrian refuge areas.

Segment III would include Kirkham Street between 18th Avenue and 19th Avenue. There are two design options for this segment:

Segment III Option 1 would involve removal of approximately 10 parking spaces on the north side of Kirkham Street and installation of Class II bicycle lanes in both directions. This option would not involve travel lane removal.

Segment III Option 2 would involve installation of a Class II bicycle lane in the eastbound direction and installation of sharrows along the existing Class III bicycle route in the westbound direction on Kirkham Street. This option would not involve travel lane or parking removal.

Segment IV would include Kirkham Street between 19th Avenue and 20th Avenue. There are two design options for this segment:

Segment IV Option 1 would involve removal of approximately 12 parking spaces on the south side of Kirkham Street and installation of Class II bicycle lane s in both directions. This option would not involve travel lane removal.

Segment IV Option 2 would involve installation of a Class II bicycle lane in the westbound direction and installation of sharrows along the existing Class III bicycle route in the eastbound direction on Kirkham Street. This option would not involve travel lane or parking removal.

Segment V would include Kirkham Street between 36th Avenue and Sunset Boulevard. There are two design options for this segment:

Segment V Option 1 would involve removal of approximately four parking spaces on the north side of Kirkham Street and installation of Class II bicycle lane s in both directions. This option would not involve travel lane removal.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

There are no transit lines on this segment of Kirkham Street. Therefore, there would be no transit impacts with implementation of Project 7-5 under either Option 1 or Option 2.

PARKING

- **Option 1**
  Option 1 would remove a total of 30 on-street parking spaces, with approximately 14 spaces on the north side of Kirkham Street between 18th and 19th Avenues and between 36th Avenue and Sunset Boulevard, and approximately 16 spaces on the south side between 19th and 20th Avenues and between Sunset Boulevard and 37th Avenue. On-street parking occupancy along this corridor is generally low, so motorists would still be able to find a parking space in the area, although they may have to walk a farther distance. Therefore, there would be no significant parking impacts with implementation of Project 7-5 Option 1.

- **Option 2**
  There would be no parking removal under Option 2. Therefore, there would be no parking impacts with implementation of Project 7-5 Option 2.

PEDESTRIAN

Pedestrian volumes are generally low, though slightly higher at the school crossings during the morning and midday periods for approximately 30 minutes before school starts and after school ends. However, there would be no changes in sidewalk width or crosswalk layout under either Option 1 or Option 2, and the interactions between pedestrians and bicyclists would not change

as a result of Project 7-5. Therefore, there would be no significant pedestrian impacts with implementation of Project 7-5 with either Option 1 or Option 2.

BICYCLE

Bicyclists would benefit from the installation of bicycle lanes with the designation of a clear right-of-way for their use. The installation of sharrows would increase the motor vehicle drivers' awareness that bicyclists may be on the road as well as identify for bicyclists the pathway outside the 'door zone'. Hence, the implementation of Project 7-5 with implementation of either Option 1 or Option 2 would not have a significant impact on cyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This area has mostly residential uses, and loading demand is typically very low. The available on-street parking spaces would accommodate any need for deliveries, and the removal of on-street parking does not include any on-street yellow commercial freight loading spaces. Therefore, there would be no significant loading impacts with implementation of Project 7-5 with either Option 1 or Option 2.

PROJECT 7-6: PAGE AND STANYAN STEETS INTERSECTION TRAFFIC SIGNAL IMPROVEMENTS

Project 7-6 would signalize the Page and Stanyan Street intersection and add pedestrian push buttons in the westbound and eastbound approaches. The existing curb ramp at the entrance to Golden Gate Park would be reconstructed to allow easier access for pedestrians and bicyclists.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus line 33 runs along Stanyan Street, with approximately four buses per hour each way during the AM and PM peak periods. The new signal at Page Street/Stanyan Street is proposed to operate as a fixed time signal. This signal would be coordinated with the Haight Street/Stanyan Street intersection along Stanyan Street. At most Muni buses would experience an additional 20 seconds of delay each way in the AM peak hour and 28 seconds of delay each way in the PM peak hour due to the signalization. Since the total added delay for Muni bus line 33 (40 seconds for AM peak hour and 56 seconds for PM peak hour) would not exceed the Muni

bus line's headway of 15 minutes, a significant transit impact would not occur with implementation of Project 7-6.

PARKING

There would be no changes in parking layout or number of parking spaces in this segment. Therefore, there would be no parking impacts with Project 7-6.

PEDESTRIAN

Pedestrian volumes in this area are generally low to moderate. Project 7-6 would add a pedestrian signal phase activated by a push button that would provide a safer passage for pedestrians crossing Stanyan Street, which currently does not have a signal. Therefore, there would be no significant pedestrian impacts with implementation of Project 7-6.

BICYCLE

Similar to pedestrians, the proposed signal would provide bicyclists safer access from the bicycle path when exiting Golden Gate Park onto Page and Stanyan Streets. Therefore, Project 7-6 would not result in a significant impact to bicyclists but could have the beneficial effect of improving access and safety for bicyclists.

LOADING

Project 7-6 would not change existing on-street parking layout or affect any off-street loading facilities. Therefore, there would be no loading impacts with implementation of Project 7-6.

CLUSTER 7: SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

No significant impacts were identified in Cluster 7.

CLUSTER 8: LOWER SUNSET/INGLESIDE AREA[31]

This section provides a description of the Existing plus Project and 2025 Cumulative and 2025 Cumulative plus Project transportation conditions within Cluster 8. Two design options are proposed for Projects 8-1 and 8-3; the remaining projects have only one proposed option. No study intersections are included within Cluster 8. Transit delay calculations sheets can be found in the TIS.

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[31] Unless otherwise indicated, all intersection analysis is for PM Peak Hour conditions.

PROJECT 8-1: 19TH AVENUE MIXED-USE PATH, BUCKINGHAM WAY TO HOLLOWAY AVENUE

There are two options for this segment of 19th Avenue.

- **Option 1**
  Option 1 would add a 12-foot wide, two-way, Class I bicycle path on the west side of 19th Avenue between Buckingham Way and Holloway Avenue. North of the bus stop, the existing parking lane would be removed, the sidewalk and curb would be moved eight feet eastward to the edge of the existing parking lane, and a two-way 12-foot bicycle path would be placed immediately to the west of the 10-foot sidewalk. This change would require permits from Caltrans because the sidewalk and curb would encroach into Caltrans' right-of-way along 19th Avenue and would also require taking of 4-feet of right-of-way from SFSU.

- **Option 2**
  Option 2 would construct a new mixed-used pedestrian/bicycle pathway within the SFSU campus between Buckingham Way and Holloway Avenue and a mixed-use pedestrian/bicycle bridge extending between the student housing complex at University Park North and the north side of Thornton Hall.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus lines 17, 28, and 28L run in both directions along 19th Avenue between Buckingham Way and Holloway Avenue, with approximately 12 buses per hour each way during the AM peak period and eight buses per hour each way during the PM peak period. There is one southbound Muni bus stop on 19th Avenue between Buckingham Way and Holloway, located on the nearside of Holloway Avenue. The bus stop is located in a 10-foot wide bay, so that buses have sufficient space to pull into the bus zone without encroaching into a travel lane or obstructing bicycle traffic.

M-Oceanview light rail runs in the center lane with approximately seven trains per hour each way during the AM and PM peak periods. The SFSU Station for the M-Oceanview LRT is located in the median on the north side of the 19th Avenue and Holloway Avenue intersection.

Because both Options 1 and 2 would add Class I bicycle paths that are separated from traffic, there would be no interaction between light rail trains and bicyclists in the median or between buses and bicyclists on the west side of 19th Avenue.

- **Option 1**
  Under Option 1, the removal of on-street parking on the west side of 19th Avenue would benefit Muni bus operation by eliminating interactions between vehicles, ingress and egress on-street parking spaces, and southbound Muni buses operating along the curb right lane. In addition, the proposed bicycle path would remove most bicycle traffic from the roadway eliminating potential transit/bicycle conflicts. Therefore, there would be no significant transit impacts with implementation of Project 8-1 Option 1.

- **Option 2**
  Option 2 would benefit Muni bus operation by diverting bicyclist movement from the roadway onto the pathway within the SFSU campus thereby eliminating conflicts between transit and bicyclists. Under this option, there would be no changes to the existing southbound bus stop bay on the far side of Holloway Avenue. Therefore, there would be no significant transit impacts with implementation of Project 8-1 Option 2.

PARKING

- **Option 1**
  Option 1 would remove approximately 45 on-street parking spaces and 35 motorcycle spaces on the west side of 19th Avenue between Buckingham Way and Holloway Avenue. Neighborhoods adjacent to SFSU, including Stonestown Galleria Shopping Center, have been opposed to SFSU students parking in their neighborhood. To this end, the residential neighborhoods in the area have implemented on-street residential parking permit (RPP) zones. The area east of SFSU has been designated as RPP zone H and the area south of SFSU is in RPP zone E.

  Parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact as under the CEQA but rather a social effect. The loss of parking may cause potential social effects, which would include cars circling and looking for a parking space in neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts that may result from a shortfall in parking in the vicinity of the proposed project would be minor. The changes in on-street parking also would not cause any secondary physical impacts, such as traffic congestion, air quality impacts, or noise impacts cause by congestion. Therefore, there would be no significant parking impacts with implementation of Project 8-1 Option 1.

- **Option 2**
  There would be no parking removal under Option 2. Therefore, there would be no parking impacts with implementation of Project 8-1 Option 2.

PEDESTRIAN

Pedestrian volumes in this area are relatively low to moderate during non-school hours, but high when SFSU classes are in session. There would be no changes in sidewalk width along 19th Avenue. Both proposed options would have separated paths for pedestrians and bicycles, but would be adjacent to each other.

- **Option 1**
  For Option 1, the proposed Class I bicycle path next to a pedestrian sidewalk (Option 1) would be a relatively new experience for both pedestrians and bicyclists in this area. The design of the proposed pathways must use striping and signage to clearly delineate right-of-way between pedestrians and bicyclists. With such delineations, no significant pedestrian impacts would result with implementation of Project 8-1 Option 1.

- **Option 2**
  For Option 2, the mixed-use pedestrian and bicycle lane under Option 2 is a relatively common feature in a university setting, thus, would not be a new experience. Therefore, no significant pedestrian impacts would result with implementation of Project 8-1 Option 2.

BICYCLE

Bicyclists would benefit from having a dedicated Class I bicycle path under both Options 1 and 2 because they would be physically separated from the movement of motor vehicles. Therefore, there would be no significant bicycle impacts with implementation of Project 8-1 with either Option 1 or Option 2.

LOADING

This segment of 19th Avenue has the SFSU campus on the west side. SFSU has available off-street loading zones and does not depend on on-street parking spaces along 19th Avenue for loading. Therefore, there would be no significant loading impacts with implementation of either Option 1 or Option 2 of Project 8-1.

PROJECT 8-2: BUCKINGHAM WAY BICYCLE LANES, 19TH AVENUE TO 20TH AVENUE

Project 8-2 would add Class II bicycle lanes in both directions on Buckingham Way and remove on-street parking on the north side of Buckingham Way between 19th and 20th Avenues.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus line 18 and SamTrans line 122 operate along Buckingham Way in the westbound direction only; there are no bus stops within this segment. There are approximately 15 westbound buses per hour during the AM peak period and approximately seven buses per hour each way during the AM and PM peak periods.

Buckingham Way (38 feet) is relatively narrow to accommodate two travel lanes and parking on both sides. Project 8-2 would reduce the width of travel lanes from 11 feet to 10 feet. Transit and traffic volumes are moderate on this segment of Buckingham Way. The reduction of travel lane width could slow down travel speeds including those of transit buses but would have little impact on total transit operations for this short segment of their routes. There are no Muni bus stops in this segment of Buckingham Way, therefore there would be little chance of conflicts between bicycles and buses. In addition, there would be no changes in transit maneuvering. Therefore, there would be no significant impacts on transit as a result of Project 8-2.

PARKING

Project 8-2 would remove approximately ten on-street parking spaces on the north side of Buckingham Way between 19th and 20th Avenues representing approximately half the available supply on this short block. Parking occupancy along this street is generally high, thus, competition for scarce parking in the area would be intensified. However, this section of Buckingham Way is surrounded by considerable off-street parking areas for the shopping center to the north and apartments to the south. This off-street parking supply in conjunction with on-street spaces on adjacent streets would be adequate to meet the parking demand of this short block. Therefore, there would be no significant parking impacts with implementation of Project 8-2.

PEDESTRIAN

Pedestrian volumes are generally moderate to high, especially at the crosswalk crossing Buckingham Way at the 19th Avenue intersection. SFSU students frequently use this route to reach bus stops, parking spaces, or the Stonestown Galleria Shopping Center. However, the current interactions and potential for conflicts between pedestrians and bicyclists would not change as a result of the proposed bicycle improvements. Therefore, there would be no significant pedestrian impacts with implementation of Project 8-2.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. Therefore, Project 8-2 would not result in a significant impact to bicyclists but could have the beneficial effect of improving roadway conditions and bicycling safety.

LOADING

This short segment of Buckingham Way has no loading activity or needs. The north side of this road has the Stonestown Galleria Shopping Center parking lot and Stonestown has off-street loading docks along Buckingham Way farther west of 20th Avenue. The south side of this road has residential apartments that do not rely on this segment of Buckingham Way for loading. Therefore, there would be no loading impacts with implementation of Project 8-2.

PROJECT 8-3: HOLLOWAY AVENUE BICYCLE LANES, JUNIPERO SERRA BOULEVARD TO VARELA AVENUE

Project 8-3 would add Class II bicycle lanes in both directions on Holloway Avenue between Junipero Serra Boulevard and Varela Avenues. There are two design options:

- **Option 1**

  Option 1 would remove one travel lane in each direction between Junipero Serra Boulevard and Varela Avenue. There would be no on-street parking removal.

- **Option 2**

  Option 2 would remove approximately 50 on-street parking spaces on Holloway Avenue between Junipero Serra Boulevard and 19th Avenue and approximately seven on-street parking spaces on the south side of Holloway Avenue between 19th and Varela Avenues. There would be no travel lane reduction.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus line 29 runs both directions along Holloway Avenue between Junipero Serra Boulevard and Varela Avenue, with approximately six buses per hour each way during the AM and PM peak periods. There is one Muni bus stop located on the far side of Junipero Serra

Boulevard within a 17-foot wide westbound travel lane. Field observations[32] indicate that buses stopping at this location usually have adequate transition distance at the intersection to pull parallel to the curb, but sometimes encroach onto the travel lane. Because transit and bicycle volumes are relatively low to moderate in this segment of Holloway Avenue, buses and bicyclists yield to one another at this bus stop without apparent conflicts.

- **Option 1**
  Under Option 1, the removal of one travel lane in each direction would allow the striping of a bicycle lane between an eight-foot wide bus stop and a 13-foot wide travel lane; this configuration would allow bicyclists to pass to the left of buses without conflict at the westbound far side bus stop at Junipero Serra Boulevard. With the lane removal, buses and other vehicles would be forced to use the same travel lane, but because bus volumes are relatively low to moderate, bus operation or traffic flow would not be significantly affected. Therefore, there would be no significant transit impacts with implementation of Project 8-3 Option 1.

- **Option 2**
  Under Option 2, the westbound far side bus stop at Junipero Serra Boulevard would be in the bicycle lane. When a bus occupies the stop, bicyclists would have to either wait behind it until it completes loading and unloading passengers or pass to the left of the bus using the adjacent 12-foot wide general travel lane. This would be the same as under Existing conditions. Therefore, there would be no significant transit impacts with implementation of Project 8-3 Option 2.

PARKING

There are approximately 50 on-street parking spaces on both sides of Holloway Avenue between Junipero Serra Boulevard and Varela Avenue.

- **Option 1**
  Option 1 would not involve any removal of on-street parking; therefore there would be no parking impacts with implementation of Project 8-3 Option 1.

- **Option 2**
  Option 2 would remove approximately 50 parking spaces on Holloway Avenue between Junipero Serra Boulevard and 19th Avenue and removing approximately seven parking spaces on the south side of Holloway Avenue between 19th and Varela Avenues. With the parking removal, there would be approximately eight parking spaces remaining on this segment of Holloway Avenue. Parking occupancy on Holloway Avenue is generally very high when SFSU is in session. The area east of 19th Avenue is within Residential

[32] Field surveys were conducted by CHS Consulting on Tuesday, November 27, 2007 during the PM peak.

Permit Parking (RPP) zone H, and the area west of 19th Avenue and south of Holloway within Parkmerced is contained in RPP Zone E. Some SFSU students also park in the RPP on-street parking area along Holloway Avenue within the 1-hour limit that is often not strictly enforced.

Field observations[33] show that there are spaces available in neighborhoods north and south of Holloway Avenue, so residents should not have significant difficulty finding a parking space within a block or two of their destination.

San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

In San Francisco, parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social effects need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact. (CEQA Guidelines Section 15131(a).) The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy, established in the City's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the

[33] Field surveys were conducted by CHS Consulting on Tuesday, November 27, 2007 during the midday.

vicinity of the proposed project would be minor. Therefore, there would be no significant parking impacts with implementation of Project 8-3 Option 2.

PEDESTRIAN

Pedestrian volumes in this area are generally low to moderate, but higher during the morning and midday because of student activity near the SFSU campus on the northwest corner of 19th Avenue and Holloway Avenue. Though pedestrian volumes are moderate, bicycle volumes are generally low and bicycles do not often make rights turns in this segment; therefore potential conflicts between pedestrians and bicycles would be minimal. There would be no changes to the existing sidewalk or crosswalk layout as a result of either Option 1 or Option 2. Therefore, there would be no significant pedestrian impacts with implementation of either Option 1 or Option 2 of Project 8-3.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel for both Options 1 and 2. An additional benefit under Option 2 would remove the hazard of 'dooring' with the removal of on-street parking adjacent to the bicycle lanes. Therefore, neither Option 1 nor Option 2 of Project 8-3 would not result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and bicyclist safety.

LOADING

This segment of Holloway Avenue has the SFSU campus west of 19th Avenue and north of Holloway Anvenue, and residential buildings east of 19th Avenue and south of Holloway Avenue. Loading needs for SFSU are accommodated by on-campus loading facilities. There are no existing on-street yellow commercial freight loading spaces located on this segment of Holloway Avenue. Loading demand for the residential uses is generally associated with mail delivery or infrequent home deliveries. This demand is typically low and is usually accommodated by the on-street parking spaces. No double parking by delivery vehicles was observed.

- **Option 1**
  With Option 1 no changes would be made to on-street parking facilities; loading activities along Holloway Avenue would not change. Therefore, there would be no loading impacts with implementation of Option 1 of Project 8-3.

- **Option 2**
  Option 2 would remove the major portion of on-street parking along this segment of Holloway Avenue. The infrequent loading demands would be accommodated on adjacent streets or by temporary double parking in the bicycle lane. Under these circumstances, there is adequate road width for bicyclists to safely pass double-parked vehicles in the general travel lane. Therefore, there would be no significant loading impact with implementation of Option 2 of Project 8-3.

PROJECT 8-4: JOHN MUIR DRIVE BICYCLE LANES, LAKE MERCED BOULEVARD TO SKYLINE BOULEVARD

Project 8-4 would add Class II bicycle lanes in both directions on John Muir Drive between Lake Merced Boulevard and Skyline Boulevard. Project 8-4 would convert the pull-in angled on-street parking in front of the Lakewood Apartments into back-in angled parking.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus lines 18 and 88 run along John Muir Drive. There are approximately four northbound buses and seven southbound buses per hour during the AM peak period. During the PM peak period there are approximately 10 northbound buses and four southbound buses per hour. There are three northbound and three southbound bus stops at the pedestrian crosswalks. Because there is on-street parking at these bus stops, buses stop in the travel lane adjacent to the parked vehicles. Bicyclists typically wait behind buses or pass to the left in the travel lane without conflict.

Traffic and bicycle volumes are generally low in this area on weekdays, and the proposed bicycle lanes would not affect transit operation. Bicycle volumes are generally higher during the weekend, but transit volumes are lower; therefore the potential for conflicts between buses and bicyclists remain relatively low. The proposed bicycle lanes disappear at the approaches to the bus stops. The interaction between buses and bicyclists after implementation of this near term improvement is expected to be similar to existing conditions. Therefore, there would be no significant transit impacts with implementation of Project 8-4.

PARKING

Project 8-4 would convert the existing pull-in 45-degree angled parking on the south side of John Muir Drive in front of the Lakewood Apartments into back-in 45-degree angled parking.

Changing the parking orientation would not remove any parking spaces. Therefore, there would be no significant parking impacts with implementation of Project 8-4.

PEDESTRIAN

Pedestrian volumes are generally low, though moderate to high during the weekend for recreational activity. There would be no changes in sidewalk width or crosswalk layout, and the interactions between pedestrians and bicyclists would not change as a result Project 8-4. Therefore, there would be no pedestrian impacts with implementation of Project 8-4.

BICYCLE

The proposed Class II bicycle lanes would provide bicyclists with a designated right-of-way for travel. In addition, changing pull-in to back-in angled parking would potentially benefit bicyclists by increasing the drivers' visibility of oncoming bicyclists and other vehicles both when entering and exiting a parking stall. When entering a stall by backing in, drivers would be looking towards oncoming traffic and more aware of bicyclists. When exiting a stall, drivers would be facing the street with a better view of traffic in the travel lane in comparison to drivers backing out of the pull-in stall, whose view of oncoming traffic may be obscured by an adjacent parked vehicle. Therefore, implementation of Project 8-4 would not result in a significant impact to bicyclists, but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

This area is mostly for recreational use, and there is no loading demand. Therefore, there would be no loading impacts with implementation of Project 8-4.

PROJECT 8-5: SLOAT BOULEVARD BICYCLE LANES, GREAT HIGHWAY TO SKYLINE BOULEVARD

Project 8-5 would add Class II bicycle lanes in both directions on Sloat Boulevard between the Great Highway and Skyline Boulevard by removing a westbound travel lane between Skyline Boulevard and the Great Highway and an eastbound travel lane between the Great Highway and 41st Avenue. Project 8-5 would also add a bicycle box on westbound Sloat Boulevard on the nearside of the Great Highway.

TRAFFIC: INTERSECTION LEVEL OF SERVICE (LOS)

Please see discussion under Setting: Study Intersection on p. V.A.3-3 of this EIR.

TRANSIT

Muni bus lines 23 and 18 run along this segment with approximately eight buses per hour each way during the AM and PM peak periods. Line 18 makes a left turn from Skyline Boulevard onto Sloat Boulevard, but because there is no bus stop for this line on the north side of the intersection, buses would not conflict with the westbound bicycle lane. There are five westbound Muni bus stops and four eastbound stops that are generally nine feet wide, which are sufficiently wide for buses to make stops at the curb without protruding into the adjacent travel lane.

With the proposed bicycle lanes, bicyclists would have sufficient right-of-way to travel comfortably alongside buses at the bus stops. Project 8-5 would establish a westbound "Right Lane Must Turn Right Except for Muni" lanes for the westbound direction between 37th and 39th Avenues and for the eastbound direction on the nearside of Skyline Boulevard. This designated lane for buses would benefit transit operation. Project 8-5 would also convert an eastbound Muni pole stop on the nearside of Skyline Boulevard into a bus zone and relocate the westbound bus zone on the nearside of the Great Highway to 47th Avenue.

Transit volumes are moderate and bicycle volumes are generally low, therefore interactions and potential for conflicts between bicyclists and buses would be minimal. Hence, there would be no significant transit impacts with implementation of Project 8-5.

PARKING

Parking occupancy is generally low on a typical weekday and high on weekends when the San Francisco Zoo attracts its most visitors. Since there would be no changes in parking layout or in the number of parking spaces in this segment, there would be no parking impacts with implementation of Project 8-5.

PEDESTRIAN

Pedestrian volumes are generally very low on a weekday and relatively high during the weekend and summertime in the vicinity of the San Francisco Zoo. Pedestrian activity mostly occurs on the south side of Sloat Boulevard when the zoo is heavily attended. With the increased volume of pedestrians, there are more potential interactions with bicyclists at the crosswalks. However, there would be no changes in sidewalk width or crosswalk layout, and the interactions between pedestrians and bicyclists would not change as a result of Project 8-5. Therefore, there would be no pedestrian impacts with implementation of Project 8-5.

BICYCLE

The installation of bicycle lanes would provide bicyclists with a designated right-of-way for travel. The proposed bicycle box would allow bicyclists a safer through or left-turn movement by providing an area to queue at the intersection in front of motor vehicles to minimize conflicts. Therefore, Project 8-5 would not result in a significant impact to bicyclists but could have the beneficial effect of improving roadway conditions and safety for bicyclists.

LOADING

There were no double-parked vehicles or significant loading needs observed in the field, and there are usually plenty of on-street parking spaces to accommodate loading demand for commercial vehicles. There would be no changes in on-street and off-street layout of loading spaces. Therefore, there would be no loading impacts with implementation of Project 8-5.

CLUSTER 8: SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

No significant impacts were identified in Cluster 8.

MATRIX 1.2 SUMMARY OF PROJECT LEVEL IMPACTS

KEY: NI = No Impact; LTS = Less Than Significant Impact; PSUI = Potentially Significant and Unavoidable Impact; PSI-FMA = Potential Significant Impact - Feasible Mitigation Available

		Thresholds of Significance					
Projects		**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Project 1-1: Broadway Bicycle Lanes, Polk Street to Webster Street		LTS	LTS	LTS	NI	LTS	PSI-FMA
Project 1-2: Broadway Tunnel Signage Improvements		LTS	NI	LTS	NI	LTS	NI
Project 1-3: North Point Street Bicycle Lanes, The Embarcadero to Van Ness Avenue		PSI-FMA	LTS	LTS	NI	LTS	PSUI
Project 2-1: 2nd Street Bicycle Lanes, King Street to Market Street	Option 1	PSUI	LTS	PSUI	NI	LTS	PSUI
	Option 2	PSUI	LTS	PSUI	NI	LTS	PSUI
Project 2-2: 5th Street Bicycle Lanes, Market Street to Townsend Street	Option 1	PSUI	LTS	LTS	NI	LTS	NI
	Option 2	PSUI	LTS	LTS	NI	LTS	LTS
Project 2-3: 14th Street Bicycle Lanes, Dolores Street to Market Street	Option 1	LTS	NI	NI	LTS	LTS	LTS
	Option 2	LTS	NI	NI	NI	LTS	LTS
Project 2-4: 17th Street Bicycle Lanes, Corbett Avenue to Kansas Street, including connections to the 16th Street BART Station via Hoff Street or Valencia Street and 16th Street and to Division Street via Potrero Avenue	Option 1	LTS	LTS	LTS	NI	LTS	LTS
	Option 2	PSUI	LTS	PSUI	NI	LTS	LTS
Project 2-5: Beale Street Bicycle Lane, Bryant Street to Folsom Street		LTS	NI	NI	NI	LTS	LTS

MATRIX 1.2 SUMMARY OF PROJECT LEVEL IMPACTS

KEY: NI = No Impact; LTS = Less Than Significant Impact; PSUI = Potentially Significant and Unavoidable Impact; PSI-FMA = Potential Significant Impact - Feasible Mitigation Available

		Thresholds of Significance					
Projects		**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Project 2-6: Division Street Bicycle Lanes, 9th Street to 11th Street	Option 1	PSUI	LTS	LTS	NI	LTS	LTS
	Option 2	LTS	LTS	LTS	NI	LTS	LTS
Project 2-7: Fremont Street Bicycle Lane, Harrison Street to Howard Street		LTS	NI	LTS	LTS	LTS	LTS
Project 2-8: Howard Street Bicycle Lane, Extension at 9th Street		LTS	LTS	NI	NI	LTS	LTS
Project 2-9: Howard Street Bicycle Lane, The Embarcadero to Fremont Street		PSUI	LTS	LTS	NI	LTS	NI
Project 2-10: Market Street and Valencia Street Intersection Improvements		LTS	NI	LTS	LTS	LTS	NI
Project 2-11: Market Street Bicycle Lanes, 17th Street to Octavia Boulevard	Option 1	PSUI	LTS	LTS	LTS	LTS	PSUI
	Option 2	LTS	LTS	LTS	LTS	LTS	NI
Project 2-12: Market Street Bicycle Lanes, Octavia Boulevard to Van Ness Avenue		LTS	LTS	LTS	LTS	LTS	LTS
Project 2-13: McCoppin Street Bicycle Path, Market Street to Valencia Street		LTS	LTS	NI	NI	LTS	NI
Project 2-14: McCoppin Street Bicycle Lane, Gough Street to Valencia Street		LTS	LTS	LTS	NI	LTS	NI
Project 2-15: Otis Street Bicycle Lane, Gough Street to South Van Ness Avenue		LTS	NI	LTS	NI	LTS	NI

MATRIX 1.2 SUMMARY OF PROJECT LEVEL IMPACTS

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Projects		Thresholds of Significance					
		Traffic	Parking	Transit	Pedestrian	Bicycle	Loading
Project 2-16: Townsend Street Bicycle Lanes, 8th Street to The Embarcadero	Option 1	PSUI	LTS	PSUI	LTS	LTS	LTS
	Option 2	PSUI	LTS	PSUI	LTS	LTS	LTS
Project 3-1: Fell Street and Masonic Avenue Intersection Improvements		LTS	LTS	LTS	LTS	LTS	NI
Project 3-2: Masonic Avenue Bicycle Lanes, Fell Street to Geary Boulevard	Option 1	PSUI	LTS	PSUI	NI	LTS	LTS
	Option 2	PSUI	LTS	LTS	LTS	LTS	LTS
Project 3-3: McAllister Street Bicycle Lane, Market Street to Masonic Avenue		LTS	NI	LTS	NI	LTS	NI
Project 3-4: Polk Street Bicycle Lane, Market Street to McAllister Street	Option 1	LTS	LTS	LTS	NI	LTS	LTS
	Option 2	LTS	LTS	LTS	LTS	LTS	LTS
Project 3-5: Scott Street Bicycle Lane, Fell Street to Oak Street	Option 1	LTS	NI	NI	NI	LTS	LTS
	Option 2	LTS	LTS	NI	NI	LTS	LTS

MATRIX 1.2 SUMMARY OF PROJECT LEVEL IMPACTS

KEY: NI = No Impact; LTS = Less Than Significant Impact; PSUI = Potentially Significant and Unavoidable Impact; PSI-FMA = Potential Significant Impact - Feasible Mitigation Available

Projects		Thresholds of Significance					
		Traffic	Parking	Transit	Pedestrian	Bicycle	Loading
Project 3-6: The "Wiggle" Improvements, Duboce Avenue between Market and Steiner Streets, Steiner Street between Duboce Avenue and Waller Street, Waller Street between Steiner and Pierce Streets, Pierce Street between Waller and Haight Streets, Haight Street between Pierce and Scott Streets, and Scott Street between Haight and Fell Streets		LTS	NI	LTS	NI	LTS	NI
Project 4-1: 16th Street Bicycle Lanes, 3rd Street to Terry François Boulevard		LTS	NI	NI	LTS	LTS	NI
Project 4-2: Cargo Way Bicycle Lanes, 3rd Street to Jennings Street	Option 1	LTS	LTS	NI	LTS	LTS	LTS
	Option 2	LTS	NI	NI	LTS	LTS	LTS
Project 4-3: Illinois Street Bicycle Lanes, 16th Street to Cargo Way		LTS	LTS	LTS	NI	LTS	LTS
Project 4-4: Innes Avenue Bicycle Lanes, Donahue Street to Hunters Point Boulevard	Option 1	LTS	LTS	LTS	NI	LTS	LTS
	Option 2	LTS	LTS	LTS	NI	LTS	LTS
Project 4-5: Mississippi Street Bicycle Lanes, 16th Street to Mariposa Street		LTS	NI	NI	NI	LTS	LTS
Project 5-1: 23rd Street Bicycle Lanes, Kansas Street to Potrero Avenue		LTS	LTS	LTS	NI	LTS	LTS
Project 5-2: Alemany Boulevard Bicycle Lanes,		LTS	LTS	LTS	NI	LTS	NI

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Projects		Thresholds of Significance					
		Traffic	Parking	Transit	Pedestrian	Bicycle	Loading
Bayshore Boulevard to Rousseau Street							
Project 5-3: Alemany Boulevard Bicycle Lanes, Rousseau Street to San Jose Avenue		LTS	LTS	LTS	LTS	LTS	LTS
Project 5-4: Bayshore Boulevard Bicycle Lanes, Cesar Chavez Street to Silver Avenue	Option 1	PSUI	LTS	PSI-FMA	NI	LTS	LTS
	Option 2	LTS	LTS	LTS	NI	LTS	PSUI
Project 5-5: Cesar Chavez Street Bicycle Lanes, I-280 to US 101 Freeways	Option 1	PSUI	LTS	LTS	NI	LTS	LTS
	Option 2	LTS	LTS	LTS	NI	LTS	LTS
Project 5-6: Cesar Chavez Street/26th Street Bicycle Lanes, Sanchez Street to US 101	Option 1	PSUI	LTS	PSUI	LTS	LTS	LTS
	Option 2	PSUI	LTS	LTS	NI	LTS	LTS
Project 5-7a: Glen Park Area Bicycle Lanes, a. Connection between Alemany Boulevard and San Jose Avenue	Option 1	LTS	LTS	LTS	NI	LTS	LTS
	Option 2	LTS	LTS	NI	NI	LTS	LTS
Project 5-7b: Glen Park Area Bicycle Lanes, b. Connection between Monterey Boulevard and San Jose Avenue	Option 1	LTS	NI	NI	NI	LTS	NI
	Option 2	LTS	NI	NI	NI	LTS	NI
Project 5-8: Kansas Street Bicycle Lanes, 23rd Street to 26th Street		LTS	NI	LTS	LTS	LTS	LTS
Project 5-9: Ocean Avenue Bicycle Lanes, Alemany	Option 1	LTS	LTS	LTS	NI	LTS	NI

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		Thresholds of Significance					
Projects		**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Boulevard to Lee Avenue	Option 2	LTS	LTS	LTS	NI	LTS	NI
Project 5-10: Phelan Avenue Bicycle Lanes, Judson Avenue to Ocean Avenue	Option 1	LTS	NI	LTS	LTS	LTS	NI
	Option 2	LTS	LTS	LTS	LTS	LTS	NI
Project 5-11: Potrero Avenue and Bayshore Boulevard Bicycle Lanes, 25th to Cesar Chavez Streets		LTS	LTS	LTS	NI	LTS	NI
Project 5-12 Sagamore Street and Sickles Avenue Bicycle Lanes, Alemany Boulevard to Brotherhood Way	Option 1	LTS	LTS	LTS	NI	LTS	NI
	Option 2	LTS	LTS	LTS	NI	LTS	NI
Project 5-13: San Bruno Avenue Bicycles Lanes, Paul Avenue to Silver Avenue	Option 1	LTS	LTS	LTS	NI	LTS	PSUI
	Option 2	LTS	LTS	LTS	NI	LTS	PSUI
Project 6-1: Claremont Boulevard Bicycle Lanes, Dewey Boulevard to Portola Drive		LTS	NI	NI	NI	LTS	NI
Project 6-2: Clipper Street Bicycle Lanes, Douglass Street to Portola Drive	Option 1	PSUI	NI	LTS	NI	LTS	NI
	Option 2	LTS	NI	LTS	NI	LTS	NI
Project 6-3: Laguna Honda Boulevard Bicycle Lanes, Plaza Street to Woodside Avenue	Option 1	LTS	NI	LTS	NI	LTS	NI
	Option 2	LTS	NI	LTS	LTS	LTS	NI

MATRIX 1.2 SUMMARY OF PROJECT LEVEL IMPACTS

KEY: NI = No Impact; LTS = Less Than Significant Impact; PSUI = Potentially Significant and Unavoidable Impact; PSI-FMA = Potential Significant Impact - Feasible Mitigation Available

Projects		Thresholds of Significance					
		Traffic	Parking	Transit	Pedestrian	Bicycle	Loading
Project 6-4: Laguna Honda Boulevard Bicycle Lanes, Portola Drive to Woodside Avenue		LTS	LTS	LTS	NI	LTS	NI
Project 6-5: Portola Drive Bicycle Lanes, Corbett Avenue to O'Shaughnessy Boulevard	Option 1	PSUI	LTS	LTS	NI	LTS	LTS
	Option 2	LTS	LTS	LTS	NI	LTS	LTS
Project 6-6: Portola Drive Bicycle Lanes, O'Shaughnessy Boulevard/Woodside Avenue to Sloat Boulevard/St. Francis Boulevard	Option 1	PSUI	LTS	LTS	NI	LTS	LTS
	Option 2	LTS	LTS	LTS	NI	LTS	LTS
Project 7-1: Intersection Improvements at 7th Avenue and Lincoln Way		LTS	LTS	LTS	LTS	LTS	NI
Project 7-2: 7th Avenue Bicycle Lanes, Lawton Street to Lincoln Way		LTS	NI	NI	NI	LTS	NI
Project 7-3: Great Highway and Point Lobos Avenue Bicycle Lanes, El Camino Del Mar to Cabrillo Street		LTS	LTS	LTS	LTS	LTS	LTS
Project 7-4: John F. Kennedy Drive and Kezar Drive Bicycle Lanes, Stanyan Street to Transverse Drive		LTS	LTS	NI	LTS	LTS	NI
Project 7-5: Kirkham Street Bicycle Lanes, 9th Avenue to Great Highway	Option 1	LTS	LTS	NI	NI	LTS	LTS
	Option 2	LTS	NI	NI	NI	LTS	LTS
Project 7-6: Page and Stanyan Streets Intersection Traffic Signal Improvements		LTS	NI	LTS	LTS	LTS	NI

MATRIX 1.2 SUMMARY OF PROJECT LEVEL IMPACTS

KEY: NI = No Impact; LTS = Less Than Significant Impact; PSUI = Potentially Significant and Unavoidable Impact; PSI-FMA = Potential Significant Impact - Feasible Mitigation Available

		Thresholds of Significance					
Projects		**Traffic**	**Parking**	**Transit**	**Pedestrian**	**Bicycle**	**Loading**
Project 8-1: 19th Avenue mixed-use path, Buckingham Way to Holloway Avenue	Option 1	LTS	LTS	LTS	LTS	LTS	LTS
	Option 2	LTS	NI	LTS	LTS	LTS	LTS
Project 8-2: Buckingham Way Bicycle Lanes, 19th Avenue to 20th Avenue		LTS	LTS	LTS	LTS	LTS	NI
Project 8-3: Holloway Avenue Bicycle Lanes, Junipero Serra Boulevard to Varela Avenue	Option 1	LTS	NI	LTS	LTS	LTS	NI
	Option 2	LTS	LTS	LTS	LTS	LTS	LTS
Project 8-4: John Muir Drive Bicycle Lanes, Lake Merced Boulevard to Skyline Boulevard	Option 1	LTS	LTS	LTS	NI	LTS	NI
Project 8-5: Sloat Boulevard Bicycle Lanes, Great Highway to Skyline Boulevard	Option 1	LTS	NI	LTS	NI	LTS	NI
	Option 2						

TABLE V.4-2 Cluster 4 – Project 4-3 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour **410**
TABLE V.4-3 Cluster 4 – Project 4-3 Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour **411**
TABLE V.5-12 Cluster 5 – Project 5-1 Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour **418**
TABLE V.5-14 Cluster 5 – Project 5-2 [b] Intersection Level of Service (LOS) and Average Delay – Existing and Existing plus Project Conditions - Weekday PM Peak Hour **424**
Table V.5-15 Cluster 5 – Project 5-2 [c] Intersection Level of Service (LOS) and Average Delay – 2025 Cumulative and 2025 Cumulative plus Project Conditions - Weekday PM Peak Hour **425**

4. MINOR IMPROVEMENTS

INTRODUCTION

This section presents the program-level review of minor improvements that would be implemented as part of the ongoing activities of the Bicycle Program. There are nine treatments included as part of the minor improvements that may be implemented, as necessary, to improve conditions for bicycle use within the City.[1] These include sharrows (shared roadway bicycle markings), bicycle racks on sidewalks, on-street bicycle parking, bicycle boxes, minor pavement markings, colored pavement materials, signage changes, traffic signal changes and on-street vehicle parking changes. Each treatment is described, and potential impacts on traffic, transit, pedestrians, bicyclists, and loading are discussed. Impacts are based the significance criteria established in Chapter 3 of the Wilbur Smith Associates, *San Francisco Bicycle Plan Update Transportation Impact Study* (TIS), October 28, 2008. A summary of all of the impacts and mitigation measures, associated with the minor improvements described in this section, is located at the end of this section.

PROJECT LOCATION/PROJECT DESCRIPTION

Minor improvements include treatments to the City's roadway and sidewalk network and infrastructure to improve conditions for bicycle use within the city. These treatments are often design elements included as part of Class II and Class III bicycle routes, and would therefore be located within the existing and proposed bicycle route network. These treatments would be implemented as warranted. Bicycle parking, either on-street or on the sidewalk, also would be implemented on streets not included as part of the bicycle route network.

Each of the nine treatments assessed as minor improvements is described in this section. As appropriate, examples of existing treatments, or treatments proposed as part of near-term improvements, are noted.

MINOR IMPROVEMENT 4.1-1: SHARROWS (SHARED ROADWAY BICYCLE MARKINGS)

Sharrows are pavement markings within the travel lane that are intended to help bicyclists better position themselves in a shared travel lane and to alert drivers to the presence of

[1] The technical information contained in this section is based on the *San Francisco Bicycle Plan Update Transportation Impact Study*, Wilbur Smith Associates, October 28, 2008. This document is on file and available for public review by appointment at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, as part of Case File No. 2007.0347E.

bicyclists. Sharrows are generally installed on roadways that are part of Class III bicycle routes, where bicycle lanes cannot be striped for varying reasons. Figure V.A.4-1 on p. V.A.4-3 presents an example of a sharrow on Market Street in San Francisco.

Sharrows were developed in response to concerns related to bicyclists riding too close to parked vehicles (within the "door zone" where motorists leaving parked cars may open their car's door into a cyclist's path of travel), motorists attempting to pass bicyclists too closely or intimidate bicyclists legally in a travel lane, bicyclists riding on the sidewalk illegally, and bicyclists riding on the wrong side of the street.

Specifications for sharrows are included in the California Manual on Uniform Traffic Control Devices (California MUTCD).[2] The SFMTA has drafted internal specifications, consistent with the California MUTCD, for design and typical placement of sharrows. Figure V.A.4-1 on p. V.A.4-3 presents the draft specifications developed by SFMTA.[3]

MINOR IMPROVEMENT 4.1-2: BICYCLE RACKS ON SIDEWALKS

Bicycle parking within the public right-of-way consists of bicycle racks installed on sidewalks, to provide bicyclists with secure short-term parking spaces conveniently located near the cyclist's destination. SFMTA developed *Bicycle Rack Placement Criteria*[4] in 1993 to encourage the use of bicycles for transportation by providing places to secure bicycles, and to ensure that sidewalks are not unreasonably obstructed. Interdepartmental Staff Committee on Traffic and Transportation (ISCOTT) approved these criteria, which address the needs of all persons using the sidewalk (the criteria indicate that all bicycle rack installations must address accessibility and path of travel requirements for persons with disabilities based upon the California Building Code Title 24, Uniform Federal Access Standards, and the Americans with Disabilities Act), in 1993. SFMTA has drafted a new *Bicycle Parking Guidelines* as part of the Bicycle Plan that address the design issues associated with on-street and off-street bicycle parking.[5]

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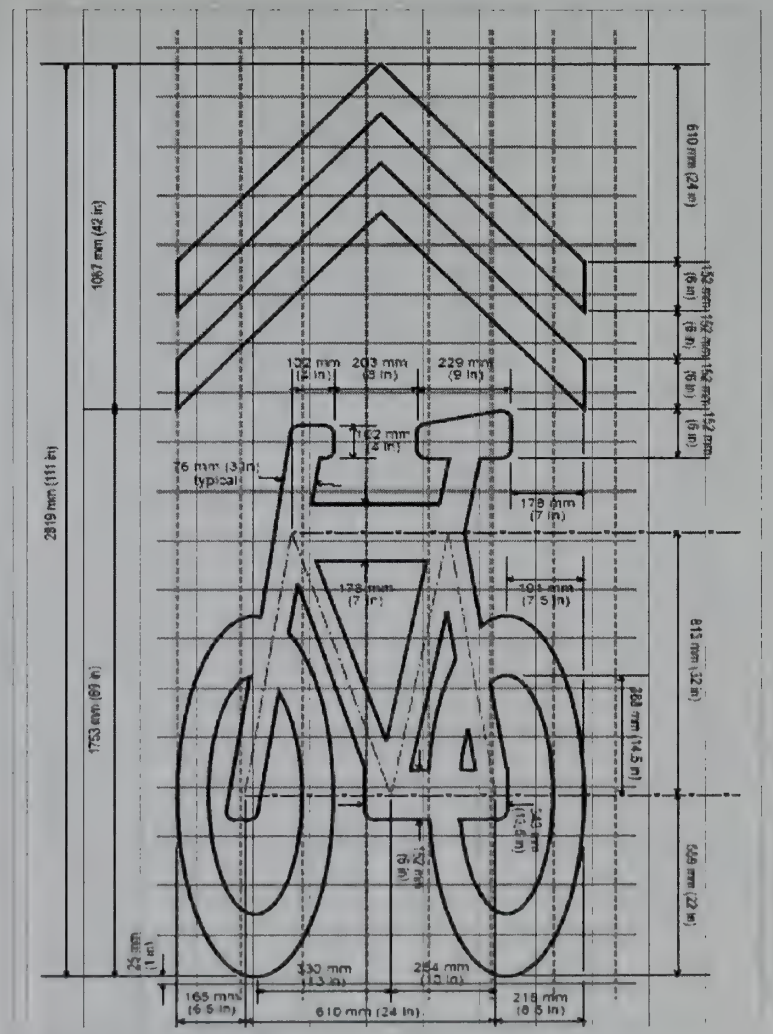
2 California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2003 Edition, as amended for use in California), Part 9 Traffic Control for Bicycle Facilities.

3 The technical information contained in this section is based on the *San Francisco Bicycle Plan Update Transportation Impact Study*, Wilbur Smith Associates, October 28, 2008, Appendix F. This document is on file and available for public review by appointment at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, as part of Case File No. 2007.0347E.

4 The technical information contained in this section is based on the *San Francisco Bicycle Plan Update Transportation Impact Study*, Wilbur Smith Associates, October 28, 2008, Appendix F. This document is on file and available for public review by appointment at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, as part of Case File No. 2007.0347E.

5 Ibid.

SOURCE: San Francisco Municipal Transportation Agency, 2008



SOURCE: City and County of San Francisco, August 6, 2007.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.4-1: SHARROWS

The inverted "U" rack, as shown on Figure V.A.4-2 on p. V.A.4-5 has been determined by SFMTA to be the most practical rack type for the majority of locations within San Francisco. Key elements related to placement of bicycle racks on sidewalks include:

- Racks should have a minimum height of 33 inches. A standard inverted "U" bicycle rack accommodates two bicycles.
- In popular retail areas, two or more racks should be installed on each side of each block.
- Racks should be placed in close proximity to Muni stops where there is a demand for short-term parking. The location must conform to SFMTA's *Bicycle Rack Placement Criteria,* guidelines approved through ISCOTT stating that a bicycle rack may be located only within the last five feet of a bus stop, and at least five feet from a crosswalk.
- Racks should be placed where there is at least a minimum six-foot width for a clear path of pedestrian travel to ensure parked bicycles don't interfere with pedestrian circulation.

Bicycle racks on sidewalks are installed either at the request of the public or based on SFMTA-observed need for more racks than are provided on a particular block.

MINOR IMPROVEMENT 4.1-3: ON-STREET BICYCLE PARKING

On-street bicycle parking consists of placing bicycle racks on the roadway within the area adjacent to the curb typically designated for motor vehicle parking. On-street bicycle parking would be considered for areas where there is no space for sidewalk racks, or if all rack spaces available on the sidewalk are fully utilized. On-street bicycle parking is currently provided on Grove Street near the entrance to the Main Library, as shown on Figure V.A.4-2 on p. V.A.4-5.

SFMTA has developed draft design guidelines for on-street parking as part of the *Bicycle Parking Guidelines* (see Appendix F of the TIS). On-street bicycle parking areas would typically require the removal of one curbside automobile parking space to accommodate six to seven bicycle racks, providing 12 to 14 bicycle parking spaces. In addition to bicycle racks, appropriate signage (e.g., No Parking Except Bicycles) and barriers, such as bollards, are typically installed.

On-street bicycle parking areas typically would be located along heavily-traveled bicycle routes or at locations where a large volume of bicycle trips terminate and the resulting bicycle parking demand is greater than can be accommodated with bicycle racks installed on sidewalks due to space limitations. The locations of on-street bicycle parking areas are generally identified by merchant or community requests and are subject to the consensus of fronting property owners.

SOURCE: San Francisco Municipal Transportation Agency, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.4-2: EXAMPLE "U" RACK AND ON-STREET BICYCLE PARKING

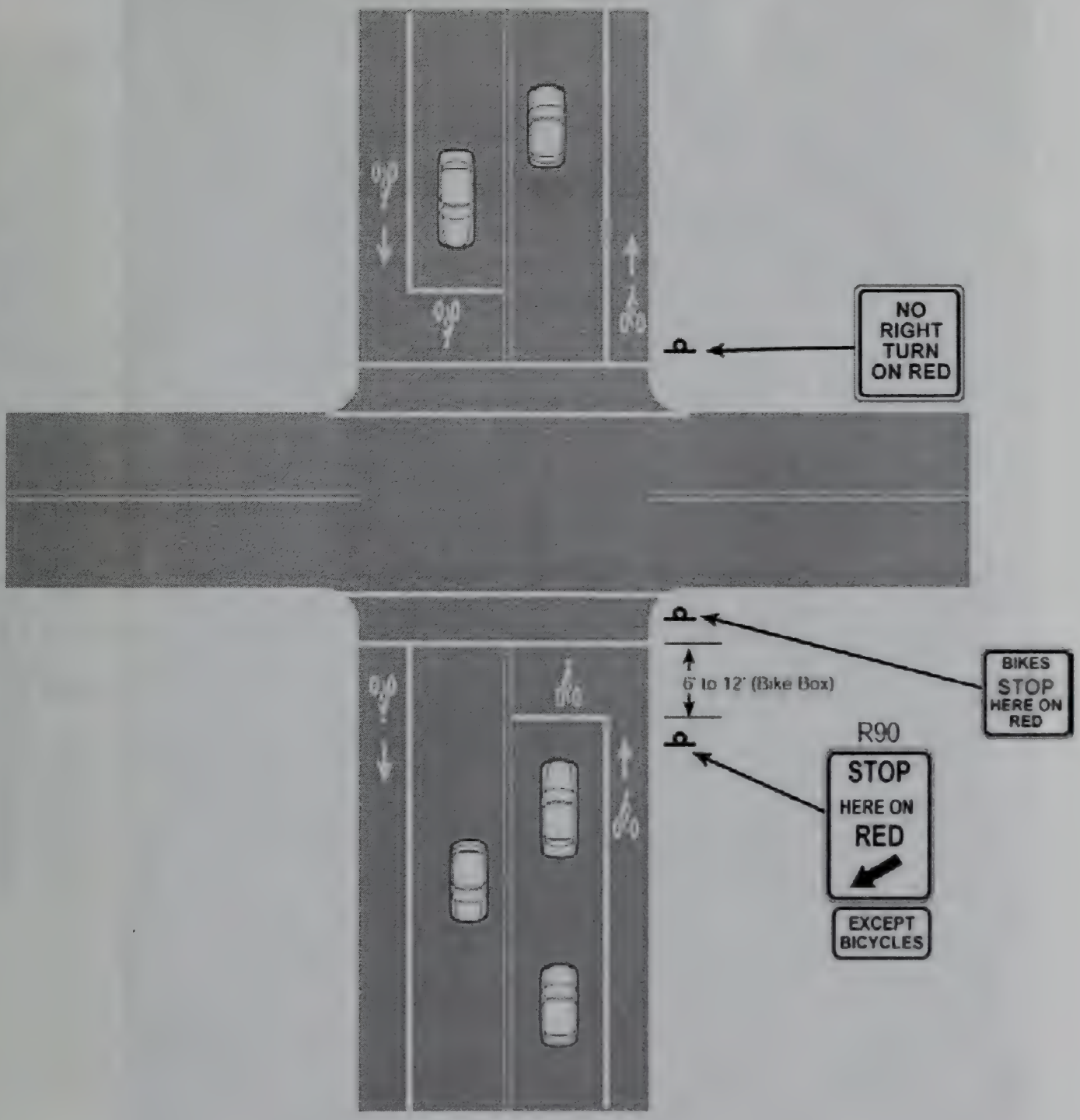
A public hearing would be required to approve the removal of any on-street parking spaces associated with on-street bicycle parking.

MINOR IMPROVEMENT 4.1-4: BICYCLE BOXES

Bicycle boxes are striped waiting areas for bicyclists situated behind a crosswalk and in front of a motor vehicle stop bar. The motor vehicle stop bar is moved back 6 to 12 feet from the crosswalk to accommodate the bicycle box. Bicycle boxes allow bicyclists approaching an intersection in a bicycle lane to move to the front of a queue of motor vehicles during the red traffic signal indication, and position themselves for turning movements at the intersection. When the traffic signal for the approach changes to green, bicyclists proceed first. Being in the bicycle box, and thus at the front of the traffic queue, tends to make bicyclists more visible to motorists.

Bicycle boxes include a stenciled bicycle marking and are generally accompanied by signs communicating where bicycles and motor vehicles should stop. Bicycle boxes would include vehicle "No Turn on red" restrictions. A bicycle signal, allocating a portion of the signal cycle exclusively to bicycle movements could also be included as part of a bicycle boxes. Figure V.A.4-3 on p. V.A.4-7 presents a schematic of a bicycle box and associated signs. Bicycle boxes would not be implemented at intersections operating at LOS E or LOS F

Candidate locations for bicycle boxes include intersections with high volumes of bicycles and motor vehicles, and at intersections where there are high volumes of turn movements. There currently are two bicycle boxes in San Francisco: one on eastbound 14th Street at the approach to Folsom Street, and one on northbound Scott Street at the approach to Oak Street. Figure V.A.4-4 on p. V.A.4-8 illustrates the bicycle box on the eastbound 14th Street approach to Folsom Street.



SOURCE: San Francisco Municipal Transportation Agency, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.4-3: BICYCLE BOX SCHEMATIC

SOURCE: San Francisco Municipal Transportation Agency, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.4-4: BICYCLE BOX (ON 14TH STREET)

MINOR IMPROVEMENT 4.1-5: MINOR PAVEMENT MARKING CHANGES

The design and use of pavement markings are specified by State statute and must be consistent with the national standard of the California MUTCD. As a minor improvement, pavement markings are proposed to be used:

- to indicate the separation of parking, bicycle, and mixed-flow travel lanes;
- to highlight potential conflict areas;
- to assist bicyclists by indicating assigned travel path;
- to provide advance information for signals and for turning and crossing maneuvers;
- to narrow travel lanes; and
- to provide guidance for floating bicycle lanes.[6]

The minor pavement marking changes would be associated with improvements along the bicycle route network, as well as locations not within the network, where special attention to accommodating bicycle travel is warranted.

MINOR IMPROVEMENT 4.1-6: COLORED PAVEMENT MATERIALS

Colored pavement materials, when used for guidance and regulation of traffic, are considered traffic control devices by the California MUTCD. Currently only yellow, white, red, and blue pavement materials are approved for use as traffic control devices. The *City of San Francisco Bicycle Plan Update: Supplemental Design Guidelines* include the use of colored bicycle lanes to further enhance the bicycle environment and improve safety. Recent Federal Highway Administration (FHWA)-approved studies by the cities of Chicago and New York and by the State of Vermont have all used the color green for experimental colored bicycle facilities. The Bicycle Technical Committee (BTC) and the Pavement Markings Technical Committee (PMTC) of the National Committee on Uniform Traffic Control Devices (NCUTCD) have suggested the use of the color green for experimental colored bicycle facilities.

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[6] A floating bicycle lane is provided on streets where on-street parking is desired during non-peak traffic periods. During peak periods there would be a tow-away restriction to provide an additional travel lane. The bicycle lane shifts locations when the tow-away restriction is in effect. When parking is allowed, bicyclists use the bicycle lane space between the parked vehicles and the solid white stripe indicating the bicycle lane. When parking is not allowed, bicyclists move to the right and use the shoulder bicycle lane. There is a floating bicycle lane northbound on The Embarcadero between Harrison Street and Howard Street.

FHWA has recently approved a study proposed by SFMTA of solid and dashed green pavement for bicycle lanes. Solid green colored pavement is proposed along portions of bicycle lanes demarcated by solid white lines to emphasize proper lane placement and discourage motorist encroachment, and dashed green colored pavement is proposed along dashed portions of bicycle lanes to encourage safe merging behavior between bicyclists and motorists. Results of the study, which would include before and after data collection at a number of locations throughout San Francisco, would be submitted to FHWA and California Traffic Control Device Committee (CTCDC). Based on the results of the various studies, the FHWA and the CTCDC would determine if changes to the MUTCD and/or the California MUTCD to incorporate colored pavement materials are warranted. Once the experiment is completed, and if the use of colored pavement materials is approved by FHWA and CTCDC, San Francisco may add colored pavement materials to selected bicycle lanes.

MINOR IMPROVEMENT 4.1-7: SIGNAGE CHANGES

The design and use of signs are specified by State statute and must be consistent with the national standards of the MUTCD. Bicycle facility signs include regulatory (e.g., No Parking Bike Lane), warning (e.g., Bikeway Narrows), and guidance (e.g., Bicycle Route number) signs. The *City of San Francisco Bicycle Plan Update: Supplemental Design Guidelines* identifies signs currently used by SFMTA to supplement the signs included in the California MUTCD and the Caltrans Traffic Manual. While most signs used in San Francisco are consistent with the California MUTCD, a number of non-standard signs also are used to address unique signs not included in the California MUTCD. An example of a non-standard sign is the "Bicycles Allowed Use of Full Lane" sign. Signage changes would include development of new signs for the Bicycle Program to meet specifications in the California MUTCD.

Bicycle-Route number signs have been placed on existing poles installed for other purposes. As part of the signage change minor improvement, new poles may be installed to relocate existing signs and signs may be placed on new poles along proposed bicycle routes identified in Chapter 3 of the TIS.

MINOR IMPROVEMENT 4.1-8: TRAFFIC SIGNAL CHANGES

Traffic signal changes are sometimes implemented along bicycle routes and at intersections with high volumes of bicyclists and motor vehicles. Traffic signal changes typically associated with implementation of bicycle improvements include:

- Changing the signal cycle length and/or redistributing the available green time to optimize traffic operations when geometric changes (e.g., travel lane removals) are made to accommodate bicycle lanes.
- Changing the duration of the yellow or all-red phase to provide an adequate clearance interval for bicyclists who enter the intersection at the end of the green phase.
- Installing bicycle signals to provide an exclusive phase for bicyclists, or to provide bicyclists with an advance green indication at locations where an identified safety or operational problem involving bicycles exists.
- Signalizing 2-way STOP sign or all-way STOP sign-controlled intersections to better accommodate pedestrians and bicyclists at high volume intersections.

Traffic signal changes would only be made at intersections currently operating at a level of service operating condition of LOS D or better. Traffic signal changes at intersections operating poorly, at LOS E or LOS F, would be subject to additional environmental analysis.

Changes to traffic signals at intersections that would result from the Bicycle Plan Project would occur primarily on streets within the existing or proposed bicycle network. For example, near-term improvement Project 7-6: Page Street and Stanyan Street Intersection Traffic Signal Improvements would facilitate pedestrian and bicycle access between the existing Class I pedestrian and bicycle multi-use path in Golden Gate Park, and the existing Bicycle Route 32 on Page Street.

Traffic signals in San Francisco are designed to meet the requirements and specifications contained within the California MUTCD. The California MUTCD also includes a bicycle signal warrant[7] that provides guidance on when a bicycle signal should be considered (based on vehicle and bicycle volumes, collision history, and geometric warrants).

MINOR IMPROVEMENT 4.1-9 ON-STREET VEHICLE PARKING

On-street vehicle parking changes are occasionally needed in order to accommodate Class II and Class III bicycle facilities within the existing right-of-way. On-street parking changes typically associated with implementation of bicycle improvements include:

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[7] In order to ensure that the advantages outweigh the disadvantages of installing a signal, and to provide some consistency in the application of signals, a series of signal warrants for traffic and bicycle signals have been developed to define the minimum conditions under which further consideration of a signal is appropriate.

- Removing parking spaces on one or both sides of the street to provide for a bicycle lane(s).
- Removing parking spaces to lengthen existing bus stops, or relocate bus stops, to more fully accommodate buses on streets with existing or proposed bicycle lanes.
- Removing parking spaces to create peak-period or permanent tow-away zones on streets with proposed bicycle lanes.
- Removing parking spaces to provide for exclusive right-turn or left-turn lanes on streets with proposed bicycle lanes.
- Reconfiguring parking spaces on streets adjacent to a bicycle route to accommodate commercial vehicle freight loading spaces displaced along the route.
- Reconfiguring angled or perpendicular parking with parallel parking to provide a bicycle lane or wider traffic lanes.
- Reconfiguring parking spaces from parallel, perpendicular, or front-in angles spaces, to back-in/head-out angled parking spaces where conventional parking restricts line of sight for drivers leaving a parking stall on streets along the bicycle route network.
- Adding parking spaces by reconfiguring parallel to angled parking or by removal of tow-away restrictions.

Changes to on-street parking would occur primarily on streets within the existing or proposed bicycle route network. However, in some instances, parking would need to be removed or reconfigured (e.g., changed from unmetered parking to metered yellow commercial freight loading spaces) on streets adjacent to the bicycle route network. A number of near-term improvements analyzed in Chapter 3 of the TIS include net increases or decreases in parking supply.

While there are no current locations in San Francisco where back-in/head-out angled parking exists, five near-term improvements include modifying existing parking stalls to back-in/head-out angled parking (Project 2-16: Townsend Street, Project 3-4: Polk Street, Project 4-3: Illinois Street, Project 5-12: Sagamore Street and Sickles Avenue, and Project 8-4: John Muir Drive).

IMPACT ANALYSIS

This section provides an assessment of the various treatments included as part of the minor improvements. The determination of impacts associated with the minor improvements is based on the significance criteria presented in Chapter 3 of the TIS.

MINOR IMPROVEMENT 4.4-1: SHARROWS

Shared lane pavement markings, also referred to as sharrows help bicyclists better position themselves in a shared travel lane and alert drivers to the presence of bicyclists. Sharrows are generally indicated on roadways that are part of Class III bicycle routes.

Traffic

The presence of sharrows within a travel lane does not substantially affect the capacity of the travel lane in which they are located, and therefore, the intersection level of service would not change with implementation of sharrows.

Implementation of new bicycle routes and closure of gaps in the existing bicycle route network would likely result in an increase in the number of bicyclists on streets that have Class III facilities, such as sharrows. The increased presence of bicyclists on these street segments may result in slower vehicle travel speeds when bicyclists ride in the middle of the travel lane and when drivers wait for an opportunity to pass bicyclists. The impact of the increased presence of bicyclists would depend on a number of factors such as the number of travel lanes, the lane widths, the vehicle and bicycle volumes (including if there is oncoming traffic), and speed of bicyclists and vehicles. The increase in delay would generally be minimal, and would occur only when both bicyclists and vehicles are present. Because drivers would be able to pass the bicyclists, the capacity of the street segment would not be substantially affected and intersection LOS would not substantially change. Sharrows, therefore would not significantly impact traffic operations.

Transit

As indicated above, the presence of sharrows would not substantially affect the capacity of a travel lane, and therefore, transit operations along a street where sharrows are indicated would not experience substantially increased travel times due to their presence. Wider vehicles, such as buses, may be more affected by sharrows than passenger vehicles depending on factors such as the travel lane widths, whether they can change lanes, whether there is opposing traffic, and volume and speed of vehicle and bicycle traffic. Buses traveling behind a bicyclist riding in the middle of the travel lane may experience somewhat slower speeds, as would buses waiting for an opportunity to pass bicyclists.

Bus stop access and egress also would not be substantially affected by the presence of sharrows; however, with the increased presence of bicyclists, bus drivers would need to ensure that they look for bicyclists at the edge of the travel lane when pulling out of a bus stop and merging back

into the traffic flow. If a bicyclist is present in the travel lane, the bus driver would need to wait until the bicyclist has passed. The generally slower speeds of bicyclist may delay the merging by a few seconds, which would not be considered a substantial increase in delay. Sharrows would not therefore result in a significant impact on transit operations.

Parking

Because sharrows are indicated within a travel lane, they would not affect on-street parking at the curb. Sharrows may increase the driver's awareness that bicyclists may be on the road, and drivers parking may be more aware of the presence of bicyclists. Implementation of sharrows would not significantly impact parking conditions.

Pedestrian

Because sharrows are indicated within a travel lane, implementation of sharrows would not have an effect on pedestrian travel on sidewalks or within crosswalks. Pedestrians may benefit from the installation of sharrows, as some studies have found that sharrows may result in fewer bicyclists riding illegally on the sidewalk. Therefore, sharrows would not significantly impact pedestrians.

Bicycle

Bicyclists would benefit from the installation of sharrows, as sharrows would increase the motor vehicle drivers' awareness that bicyclists may be on the road as well as denote to the bicyclists the pathway outside the parking lane's 'door zone'. Because the implementation of sharrows would have a beneficial effect of improving conditions and safety for bicyclists, they would not result in significant impacts on bicyclists.

Loading

Because sharrows are indicated within a travel lane, implementation of sharrows would not have an effect on loading/unloading activity occurring at the curb. On streets where commercial vehicles double-park to conduct loading/unloading activities, double-parking would likely continue to occur even with implementation of sharrows. Therefore, sharrows would not significantly impact loading operations.

MINOR IMPROVEMENT 4.1-2: BICYCLE RACKS ON SIDEWALKS

SFMTA's *Bicycle Rack Placement Criteria* identify the criteria used in determining whether bicycle racks are appropriate at a selected location. The guidelines indicate that a minimum of six feet

of width for a clear path of pedestrian travel, free of obstacles, including bicycles parked at the rack, must be maintained on the sidewalk at all times. In addition, SFMTA's *Bicycle Rack Placement Criteria* also identify pedestrian flows and the minimum effective sidewalk width required to maintain LOS C[8] pedestrian operating conditions.

Traffic

Because bicycle racks would be located within the sidewalk, implementation of bicycle racks would not affect travel lane operations. Therefore, bicycle racks would not significantly impact traffic operations.

Transit

Because bicycle racks would be located within the sidewalk, implementation of bicycle racks would not affect transit operations within travel lanes. SFMTA's *Bicycle Rack Placement Criteria* identify conditions under which bicycle racks could be placed on the sidewalk within a bus stop zone without impeding bus stop operations, such as passengers waiting at the bus stop or getting off the bus. Bicycle rack placement must conform to the ISCOTT guidelines stating that a bicycle rack may be located only within the last five feet of a bus stop and at least five feet from a crosswalk. Therefore, bicycle racks would not significantly impact transit operations.

Parking

Because bicycle racks would be located within the sidewalk, implementation of bicycle racks would not affect parking lane operations. Therefore, bicycle racks would not result in a significant impact on parking.

Pedestrian

As indicated above, SFMTA's *Bicycle Rack Placement Criteria* (see Appendix F of the TIS) indicate that a minimum of 6 feet of width for a clear path of pedestrian travel, free of obstacles, including bicycles parked at the rack, must be maintained on the sidewalk at all times.[9] In addition, as noted above, walkway operating conditions of LOS C or better need to be

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[8] Pedestrian operating conditions at LOS C pedestrian walkway space is sufficient for normal walking speeds, and for bypassing other pedestrians in primarily unidirectional streams. Reverse-direction or crossing maneuvers can cause minor conflicts, and walking speeds are somewhat lower than LOS A and LOS B conditions.

[9] The technical information contained in this section is based on the *San Francisco Bicycle Plan Update Transportation Impact Study*, Wilbur Smith Associates, October 28, 2008, Appendix F. This document is on file and available for public review by appointment at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, as part of Case File No. 2007.0347E.

maintained (within San Francisco, walkway operating conditions of LOS C or better are desirable). Therefore, implementation of bicycle racks within the sidewalk, per the identified criteria, would not result in significant pedestrian impacts.

Bicycle

Bicyclists would benefit from the installation of bicycle racks on sidewalks. Bicycle Racks would provide bicyclists with secure short-term parking spaces conveniently located near the cyclist's destination. Bicycle racks would not result in a significant impact on bicyclists.

Loading

Because bicycle racks would be located within the sidewalk, implementation of bicycle racks would not affect loading/unloading operations occurring within the parking lane. However, in some instances, racks and locked bicycles could impede delivery access between the parking lane and the sidewalk, and may result in deliveries being carted around the bicycle. However, this condition would be temporary and would not result in a significant impact on curb loading/unloading operations. Bicycle racks are generally located to provide access between parked vehicles and the sidewalk. They are generally not located within the last 5 feet of yellow commercial freight loading spaces to reduce the potential of bicycles impeding loading/unloading activities. Therefore, bicycle racks would not result in significant impacts on loading operations.

MINOR IMPROVEMENT 4.1-3: ON-STREET BICYCLE PARKING

On-street bicycle parking consists of placing bicycle racks within the roadway area adjacent to the curb typically designated for motor vehicles. Typically one vehicle parking space would be removed to accommodate on-street bicycle parking. At some locations two vehicle parking spaces may be affected.

Traffic

Because the on-street bicycle racks would be located within the curb parking lane, implementation of bicycle racks would not affect traffic operating conditions. Therefore, on-street bicycle racks would not result in a significant impact on traffic operations.

Transit

Because the on-street bicycle racks would be located within the curb parking lane, implementation of bicycle racks would not affect transit operations. Therefore, on-street bicycle racks would not result in a significant impact on transit operations.

Parking

On-street bicycle racks would be located within the curb parking lane at these locations and would displace one or two vehicle parking spaces. The number of locations for such racks has not been determined, and the loss of one to two vehicle parking spaces at these locations would not be a noticeable change in the on-street vehicle parking supply. Therefore, on-street bicycle racks would not result in a significant impact on parking conditions.

Pedestrian

Because the on-street bicycle racks would be located within the curb parking lane, implementation of bicycle racks would not affect pedestrian walkway conditions on sidewalks or within crosswalks. Therefore, on-street bicycle racks would not result in a significant impact on pedestrian conditions.

Bicycle

Bicyclists would benefit from the installation of bicycle racks on sidewalks. The bicycle racks would provide bicyclists with secure short-term parking spaces conveniently located near cyclists' destinations. On-street bicycle parking would not result in a significant impact on bicyclists.

Loading

On-street bicycle racks would be located within the curb parking lane and would displace up to two vehicle parking spaces. Placement of on-street bicycle parking would take into consideration existing yellow commercial vehicle freight loading zones, and would typically not displace yellow commercial freight loading zones, although the location of the loading zones may be modified to accommodate both bicycle parking and yellow commercial freight loading zones. Therefore, on-street bicycle parking would not result in a significant impact on loading conditions.

MINOR IMPROVEMENT 4.1-4: BICYCLE BOXES

Bicycle boxes are striped waiting areas for bicyclists situated behind a crosswalk and in front of a motor vehicle stop bar. Bicycle boxes allow bicyclists approaching an intersection in a bicycle lane to move to the front of a queue of motor vehicles during the red signal phase, and position themselves for turning movements at the intersection. Bicycle boxes generally include a vehicle "No Turn on Red" restriction.

Traffic

Placement of bicycle boxes at intersections would not substantially affect the capacity of the travel lane(s) in which they are located, although they would delay vehicle start-up by a few seconds when bicyclists are present in the bicycle box. The slight reduction in available green time for vehicles would not substantially change the intersection level of service operating conditions for vehicles. Implementation of "No Turn on Red" restrictions would not substantially affect vehicle delays at intersections, or overall intersection level of service operating conditions. Bicycle boxes would not be implemented at intersections operating at LOS E or LOS F conditions. Observations[10] of the two existing bicycle boxes in San Francisco did not identify substantial increases in vehicular travel times due to utilization of the bicycle box. Therefore, bicycle boxes would not result in significant impacts on intersection operations.

Transit

As indicated above, bicycle boxes would not substantially affect the capacity of the travel lane(s), and therefore, transit operations at intersections where bicycle boxes are implemented would not experience substantial increases in travel times due to their presence. Because bicycle boxes would be within the travel lane, implementation of bicycle boxes would not affect bus stop operations. Overall, bicycle boxes would not result in significant impacts on transit.

Parking

Because bicycle boxes would be within the travel lane, implementation of bicycle boxes would not affect parking lane operations. Therefore, bicycle boxes would not result in significant impacts on parking.

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[10] Field observations conducted by Luba Wyznyckyj, LCW Consulting, August 2008.

Pedestrian

Because bicycle boxes would be within the travel lane, implementation of bicycle boxes would not affect pedestrian conditions on sidewalks. Pedestrian crosswalks also would not be affected by placement of bicycle boxes at intersections. Therefore, bicycle boxes would not result in significant impacts on pedestrians.

Bicycle

Bicyclists would benefit from the installation of bicycle boxes, by making bicyclists more visible to motorists, allowing bicycles to be at the front of the traffic queue during the red signal indication, and providing bicyclist a safer way to position themselves for turning movements. Therefore, bicycle boxes would not result in significant impacts on bicyclists.

Loading

Because bicycle boxes would be located within the travel lane(s) at the approach to intersections, implementation of bicycle boxes would not affect loading/unloading operations occurring within the parking lane. Therefore, bicycle boxes would not result in significant impacts on loading operations.

MINOR IMPROVEMENT 4.1-5: MINOR PAVEMENT MARKING CHANGES

Minor pavement marking changes are proposed to be used to indicate the separation of parking, bicycle, and mixed-flow travel lanes, to highlight potential conflict areas, to assist the bicyclists by indicating assigned travel path, to provide advance information for signals and for turning and crossing maneuvers, to narrow travel lanes, and to provide guidance for floating bicycle lanes.

Traffic

Minor pavement marking changes would not substantially affect the capacity of the travel lanes, and therefore, the intersection level of service would not change with implementation of changes to pavement markings. The design and use of pavement markings would be consistent with the California MUTCD. Therefore, minor pavement marking changes would not result in significant impacts on traffic operations.

Transit

As indicated above, minor pavement marking changes would not affect travel lane operations, and therefore transit operations along a street or at bus stops would not be affected. Minor pavement marking changes would therefore not result in significant impacts on transit.

Parking

Minor pavement marking changes would generally not affect the on-street parking supply. Therefore, minor pavement marking changes would not result in significant impacts on parking.

Pedestrian

Minor pavement marking changes would not affect pedestrian conditions on sidewalks or within crosswalks. Therefore, minor pavement marking changes would not result in significant impacts on pedestrians.

Bicycle

Bicyclists would generally benefit from minor pavement marking changes, which would serve to increase motor vehicle drivers' awareness that bicyclists may be on the road and to provide guidance for bicyclists. Therefore, minor pavement marking changes would not result in significant impacts on bicyclists.

Loading

Minor pavement marking changes would generally not affect the on-street yellow commercial freight loading spaces. Therefore, minor pavement marking changes would not result in significant impacts on loading.

MINOR IMPROVEMENT 4.1-6: COLORED PAVEMENT MATERIALS

Colored pavement materials would be used for designation of selected existing bicycle lanes or selected bicycles lanes approved in the future with an appropriate level of environmental review. This design feature would encourage safe merging behavior by motorists and bicyclists, proper lane placement, and to discourage motorists from encroaching into space designated for bicyclists. This minor improvement entails only the method of marking bicycle lanes. Implementation of specific bicycle lanes would be subject to environmental review. The use of colored pavement materials is pending completion of an FHWA-approved study by

SFMTA, and, if warranted, incorporation of the use of colored pavement materials into the California MUTCD.

Traffic

The use of colored pavement materials for designation of bicycle lanes would not affect the capacity of the adjacent travel lanes, and therefore, the intersection level of service would not change with colored pavement materials. Therefore, colored pavement materials would not result in significant impacts on traffic operations.

Transit

Colored pavement materials for bicycle lanes would not affect travel lane operations, and therefore transit operations along a street or at bus stops would not be affected. The use of colored pavement materials would therefore not result in significant impacts on transit operations.

Parking

Colored pavement materials for bicycle lanes would not affect the on-street parking supply. Therefore, colored pavement materials would not result in significant impacts on parking.

Pedestrian

Colored pavement materials would not affect pedestrian conditions on sidewalks or within crosswalks. Therefore, colored pavement materials would not result in significant impacts on pedestrians.

Bicycle

As noted above, the intent of the use of colored pavement materials would be to encourage safe merging behavior by motorists and bicyclists, allow for proper lane placement, and to discourage motorists from encroaching into space designated for bicyclists. The use of colored pavement materials is pending completion of the FHWA-approved study by SFMTA, which would determine if colored pavement materials should be incorporated into the California MUTCD. The use of colored pavement materials would be included in the California MUTCD only if benefits to bicyclists and motorists are demonstrated. Therefore, if incorporated into the California MUTCD and if used on a more permanent basis in San Francisco, colored pavement materials would not result in significant impacts on bicyclists.

Loading

Colored pavement materials for bicycle lanes would not affect on-street yellow commercial freight loading spaces. Therefore, colored pavement materials would not result in significant impacts on loading.

MINOR IMPROVEMENT 4.1-7: SIGNAGE CHANGES

Signage changes would include development of new signs for the Bicycle Program to meet specifications in the California MUTCD. In addition, new poles may be installed to relocate existing signs, and signs may be placed on new poles along proposed bicycle routes identified in Chapter 3 of the TIS as well as the routes identified in the long-term improvements below.

Traffic

Signage changes would not affect the capacity of the adjacent travel lanes, and therefore, the intersection level of service would not change. Placement of signs, in accordance with the California MUTCD, would provide guidance for motorists and bicyclists to allow for free and safe flow of vehicles. Therefore, signage changes would not result in significant impacts on traffic operations.

Transit

Signage changes would not affect travel lane operations, and therefore, transit operations along a street or at bus stops would not be affected. Signage changes therefore would not result in significant impacts on transit operations.

Parking

Signage changes would not affect the on-street parking supply. Therefore, signage changes would not result in significant impacts on parking.

Pedestrian

Signage changes would not affect pedestrian conditions on sidewalks or within crosswalks. New poles would be installed within the area near the curb designated for meters, light poles, and signs. Therefore, the minimum dimensions for walkway clear paths of travel would not be affected. Consequently, signage changes would not result in significant impacts on pedestrians.

Bicycle

As noted above, signage changes would be made to meet specifications in the MUTCD. Therefore, signage changes would provide positive benefits to bicyclists and would not result in significant impacts on bicyclists.

Loading

Signage changes would not affect on-street yellow commercial freight loading spaces. Therefore, signage changes would not result in significant impacts on loading.

MINOR IMPROVEMENT 4.1-8: TRAFFIC SIGNAL CHANGES

Traffic signal changes are sometimes implemented along bicycle routes and at intersections with high volumes of bicyclists and motor vehicles. Traffic signals in San Francisco are designed to meet the requirements and specifications contained within the California MUTCD.

Traffic

Traffic signals regulate the movement of traffic, including pedestrians, bicyclists, motor vehicles, and streetcars through an intersection. They assign the right-of-way to the various traffic movements and thereby influence traffic flow. Traffic signals are designed to accommodate pedestrian crossings and generally to minimize vehicle and transit delays for both directions of travel (i.e., for the east/west and north/south movements). In addition, traffic signals often are coordinated to maximize transit or vehicle throughput along corridors. As noted above, traffic signals are designed to meet the requirements and specifications within the California MUTCD to accommodate the competing pedestrian, bicycle and motor vehicle traffic flows.

Traffic signal changes would only be made at intersections operating at a level of service operating condition of LOS D or better. Traffic signal changes at intersections operating poorly, at LOS E or LOS F, would be subject to additional environmental analysis.

Traffic signal changes would be implemented to accommodate geometric changes (e.g., travel lane removals) associated with bicycle facilities, to provide for additional clearance time for bicycles, to provide new bicycle and pedestrian signals, and to upgrade unsignalized intersections. The traffic signal change would involve a redistribution of the green time allocated to the various movements. Traffic signal changes would be made to improve the overall intersection operations, although they may result in increased delays to motor vehicles. Traffic signal timing changes would not be made if changes would substantially impede traffic

flow. Therefore, minor traffic signal changes would not result in significant impacts on traffic operations.

Transit

Traffic signal changes as described above would not substantially affect travel lane operations, and therefore transit operations along a street, or at bus stops, would not be affected. As described above, traffic signal changes would only be made at intersections operating at LOS D or better, and additional environmental analysis would be required to implement traffic signal changes at intersections operating at LOS E or LOS F. Traffic signal changes would not result in significant impacts on transit operation.

Parking

Traffic signal changes as described above would not affect the on-street parking supply or parking maneuvers. Therefore, traffic signal changes would not result in significant impacts on parking.

Pedestrian

Traffic signal changes as described above would not affect pedestrian conditions on sidewalks. At intersections, minimum pedestrian crossing times are required to be maintained to ensure that pedestrians can cross streets safely. Therefore, signal timing changes would not result in significant impacts on pedestrians.

Bicycle

Traffic signal changes as described above would be implemented to accommodate the needs of pedestrians, bicyclists, motor vehicles, and streetcars. Bicyclists would benefit from exclusive bicycle phases and additional yellow and all-red phases that would provide bicyclists with additional time to cross intersections. Because traffic signal timing changes would meet the requirements and specifications within the California MUTCD to accommodate competing pedestrian, bicycle and motor vehicle traffic flows, they would not result in significant impacts on bicycles.

Loading

Signal timing changes as described above would not affect on-street yellow commercial freight loading spaces. Therefore, signal timing changes would not result in significant impacts on loading.

MINOR IMPROVEMENT 4.1-9 ON-STREET VEHICLE PARKING CHANGES

Implementation of on-street parking changes include adding parking spaces or reconfiguring or removing existing parking spaces, could result in a net increase or decrease in the number of parking spaces, the type of parking spaces, and/or the location of parking spaces. In general, this minor improvement refers to reconfiguring existing parking.

Traffic

Implementation of on-street parking changes would not substantially change traffic operations along a street segment or at an intersection. Therefore, parking changes would not significantly impact traffic operating conditions.

Transit

Implementation of on-street parking changes would not substantially change traffic operations along a street segment or at an intersection. Therefore, parking changes would not significantly impact transit operating conditions.

Parking

The impact of a decrease in on-street parking supply would depend on the number of parking spaces that would be eliminated, the location of the spaces, and the overall parking occupancy in the area. The loss of a few parking spaces would generally not be noticeable within an area where on-street parking is not fully occupied, and available parking supply exists to accommodate the displaced vehicles. However, the loss of a few parking spaces in an area where parking supply is constrained and generally fully occupied, would result in an increased competition for on-street, and potentially off-street, parking spaces.

On-street vehicle parking changes also could include implementation of back-in/head-out angled parking. Back-in/head-out angled parking is similar to parallel and standard angled parking. As with parallel parking, the driver enters the stall by stopping and backing in, but need not maneuver the front of the vehicle against the curb. When leaving the stall, the driver pulls out of the stall and has a better view of the oncoming traffic than with parallel or standard angled parking. The back-in/head-out angled parking provides a safer environment for bicyclists, as the vehicle driver is able to see the bicyclist when leaving the parking space. Replacement of standard angled parking spaces with back-in/head-out parking would not change the number of parking spaces. Replacement of parallel parking spaces with back-in/head-out angled parking spaces would generally result in an increase in the number of

parking spaces, while replacement of perpendicular spaces with back-in/head-out angled parking spaces would generally result in a reduction in the number of parking spaces. The actual increase or decrease in the number of parking spaces would depend on a number of factors, including block length, and location of driveways, hydrants and bus stops.

In San Francisco, parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact under CEQA, but rather a social effect. The loss of parking may cause potential indirect physical effects, which would include cars circling and looking for a parking space in neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to some drivers, who are aware of constrained parking conditions in a given area, shifting to other modes. Hence, any secondary environmental impacts that may result from a shortfall in parking would be minor. Therefore, any net reduction in on-street parking supply would not result in significant parking impacts.

Pedestrian

Implementation of on-street parking changes would not change crosswalk operations or affect pedestrian operations on sidewalks or crosswalks. Therefore, parking changes would not significantly impact pedestrians.

Bicycle

Bicyclists would generally benefit from on-street parking changes. Because these changes would be made primarily to accommodate bicycle facilities such as bicycle lanes and bicycle parking. Therefore, on-street vehicle parking changes would not result in significant impacts on bicyclists.

Loading

The impact of a loss of on-street parking, including on-street white zone passenger loading/unloading and yellow commercial freight loading zones, would depend on the number of spaces that would be eliminated, the location of the spaces, and the provision of alternate accommodations for loading/unloading activities. The loss of yellow commercial and white zone passenger loading/unloading could result in double parking within the travel lane or the bicycle lane if a practical alternative to accommodate the need for passenger or commercial vehicle loading/unloading is not included as part of on-street vehicle parking changes. Double-parking would not necessarily result in an impact on loading activities or impact vehicle and bicycle flow, if traffic volumes are low and/or adjacent travel lanes are available for traffic to

bypass the vehicles parked in the travel or bicycle lane. In situations where on-street parking is removed, the loading demand cannot be reasonably accommodated within existing adjacent locations, and roadway right-of-way is constrained, loading operations may result in increased interference with vehicular and bicycle flows; however, would not result in significant loading impacts.

CUMULATIVE CONDITIONS

The nine minor improvements include various treatments that would be implemented on the City's roadway and sidewalk network to improve conditions for bicycle use in the City. These improvements would serve to help bicyclists better position themselves in the travel lanes, discourage motor vehicle encroachment on bicycle lanes, and alert drivers in travel and parking lanes to the presence of bicyclists. In many instances, two or more minor improvements could be implemented along a particular street segment. This section provides an assessment of the cumulative impacts of the minor improvements.

Traffic

Minor improvements that could potentially affect traffic operations include sharrows, bicycle boxes, and traffic signal changes. Combined, these treatments may result in slower travel speeds for motor vehicles when bicyclists are present in the travel lane and within the bicycle boxes. Minor pavement markings, colored pavement materials, and signage changes would serve to alert drivers to the presence of bicyclists, and would not affect traffic operations. The remaining minor improvements (i.e., bicycle racks on sidewalks, on-street bicycle parking, and on-street vehicle parking changes) would not affect travel lane operations and therefore traffic operations along a street or at an intersection would not be affected.

The impact of the increased presence of bicyclists would depend on a number of factors such as the number of travel lanes, the lane widths, the vehicle and bicycle volumes (including if there is oncoming traffic), and speed of bicyclists and vehicles. The increase in delay would generally be minimal, and would only occur when both bicyclists and vehicles are present. However, the overall capacity of the street segment would not be substantially affected and intersection LOS would not substantially change. Overall, the minor improvements would not result in significant cumulative traffic impacts.

Transit

Minor improvements that could potentially affect transit operations primarily include sharrows, bicycle boxes, and signal timing changes. The remaining minor improvements would not affect

travel lane operations, and therefore, transit operations along a street or at bus stops would not be affected. The cumulative effect of sharrows, bicycle boxes, and signal timing changes would not result in substantial change in capacity of the travel lane or substantial increase in transit travel times. The magnitude of the cumulative effect would vary, depending on factors such as the travel lane widths, whether buses can change lanes, whether there is opposing traffic, and volume and speed of vehicle and bicycle traffic. Buses traveling behind a bicyclist riding in the middle of the travel lane may experience somewhat slower speeds, as would buses waiting for an opportunity to pass bicyclists. However, the minor improvements would not result in significant cumulative transit impacts.

Parking

Most of the minor improvements would not affect parking supply or parking lane operations. Only on-street bicycle parking and minor on-street parking changes would affect the parking supply. On-street bicycle racks at the levels assumed would displace one to two vehicle parking spaces at each location. This would not be a noticeable change in the on-street parking supply. On-street vehicle parking changes could result in an increase or decrease in parking supply, which would occur along the bicycle network. The impact of a decrease in on-street parking supply would depend on the number of parking spaces that would be eliminated, the location of the spaces, and the overall parking occupancy in the area. The loss of a few parking spaces would generally not be noticeable within an area where on-street parking is not fully occupied, and available parking supply exists to accommodate the displaced vehicles. However, the loss of a few parking spaces in an area where parking supply is constrained and generally fully occupied, would result in an increased competition for on-street, and potentially off-street, parking spaces. Overall, any net reduction in on-street parking supply would be distributed over the bicycle route network and not result in significant cumulative parking impacts.

Pedestrian

Most of the minor improvements would not affect pedestrian travel on sidewalks or within crosswalks, as treatments would occur within the travel or parking lanes. Treatments such as signage changes and placement of bicycle racks on sidewalks would be required to ensure that a clear path of pedestrian travel is maintained, and that walkway operating conditions of LOS C or better are maintained. Therefore, implementation of the minor improvements would not result in significant cumulative pedestrian impacts.

Bicycle

Bicyclists would benefit from the installation of the minor improvements, as the impact would increase the motor vehicle drivers' awareness that bicyclists may be on the road. Because implementation of the minor improvements would have a beneficial effect of improving riding conditions, bicycle parking, and safety for bicyclists, they would not result in significant cumulative impacts on bicyclists.

Loading

Most of the minor improvements would not affect curb lane operations and would not impact loading operations. Minor on-street parking changes would affect the parking supply and potentially displace white passenger loading/unloading and yellow commercial freight loading zones. The loss of yellow commercial and white passenger loading/unloading zones could result in double parking within the travel lane or the bicycle lane. Double-parking would not necessarily result in an impact on loading activities, or impact vehicle and bicycle flow, if traffic volumes are low and/or adjacent travel lanes are available for traffic to bypass the vehicles parked in the travel or bicycle lane. In situations where on-street loading is removed where the roadway right-of-way is constrained and the loading demand cannot be reasonably accommodated within existing adjacent locations, loading operations may result in increased interference with vehicular and bicycle flows, however, they would not result in significant cumulative loading impacts.

MITIGATION MEASURES

As described above, the Minor Improvements described and analyzed in this section would not result in a significant impact to traffic, transit, parking, pedestrian or bicycle circulation. Therefore no mitigation measures are required.

IMPROVEMENT MEASURES

Additional improvements may be warranted at some locations, to accommodate loading demand; improvement measures could include:

- Modifying on-street parking layouts to accommodate additional yellow commercial freight loading zones.
- Developing and implementing traffic management strategies to accommodate short-term passenger loading/unloading activities.

SUMMARY OF IMPACTS OF MINOR IMPROVEMENTS

This section summarizes impacts described in detail, above.

Traffic

Sharrows, bicycle boxes, signage changes, traffic signal changes and on-street vehicle parking would all have minor impacts to vehicular circulation in travel lanes. However, none of these minor improvements would result in a reduction in travel lane capacity or a decrease in roadway or intersection LOS, therefore impacts would be less-than-significant. The addition of bicycle parking and changes to pavement markings and materials would have no impact.

Transit

Sharrows could slow bus merging since vehicles, buses and bicyclists would be sharing the lanes. On-street bicycle racks located within the curb parking lane, and changes to on-street vehicle parking could also slightly affect bus merging operations, however impacts would be less than significant.

Bicycle rack designs would be required comply with ISCOTT regulations so as not interfere with buses or bus stops. Bicycle boxes and traffic signal changes would occur in travel lanes and would not affect bus stop operations. Pavement marking changes, colored pavement materials, and signage changes would not affect travel lanes, so transit operations would not be affected, and no impact would occur.

Parking

Since sharrows are indicated within the travel lane, no impact to on-street parking would occur. Similarly, bicycle boxes, pavement markings changes, colored pavement materials, signage changes and traffic signal changes would all occur in the travel lanes, so no impact to parking would occur.

On-street bicycle racks could each displace one or two parking spaces. On-street vehicle parking changes could also result in the loss of a few parking spaces. However, in San Francisco, a loss of parking spaces is not considered a significant impact under CEQA, therefore impacts would be less than significant.

Pedestrian

Generally, impacts to pedestrians would result from changes to sidewalk LOS or crosswalk operations. Sharrows, on-street bicycle parking, bicycle boxes, minor pavement markings

changes, colored pavement materials, and on-street vehicle parking changes would all occur in the vehicular right-of-way and would not affect pedestrian circulation on sidewalks or in crosswalks.

Bicycle racks on the sidewalks would be required to comply with SFMTA's *Bicycle Rack Placement Criteria* to preserve a clear path of pedestrian travel that is free of obstacles. Walkway operating conditions of LOS C or better would be maintained, and impacts would be less than significant. In terms of signage changes, new poles would be installed within the area near the curb designated for meters, light poles, and signs. Therefore, minimum dimensions for walkway clear paths of travel would not be affected and impacts to pedestrians would be less than significant.

At intersections, minimum pedestrian crossing times are required to be maintained for safe crossing, therefore changes to traffic signals would have no impact to crosswalk operations.

Bicycle

The use of colored pavement materials is pending completion of a FHWA-approved study by SFMTA. The study will determine if colored pavement markings should be incorporated into the California MUTCD. Colored pavement markings will only be included if beneficial to bicyclists and motorists. All of the other minor improvements would have beneficial effects to bicyclists, therefore no impact would occur.

Loading

Sharrows, bicycle boxes, minor pavement marking changes, colored pavement materials, and signal timing changes would occur or be located in travel lanes and would not affect yellow commercial freight loading spaces, so no impact to loading would occur. Signage changes would not conflict with loading activities or change commercial freight loading spaces, so no impact would occur.

Bicycle racks on sidewalks could impede delivery access between the parking lane and the sidewalk, but are generally not located within the last 5 feet of yellow commercial freight loading zones. On-street bicycle parking would typically not displace yellow commercial vehicle freight loading zones. To the extent that curbside loading/unloading opportunities are reduced with the reduction of on-street parking, loading/unloading for passengers and freight, double parking could occur. However, impacts would be considered less than significant.

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5. LONG-TERM IMPROVEMENTS

INTRODUCTION

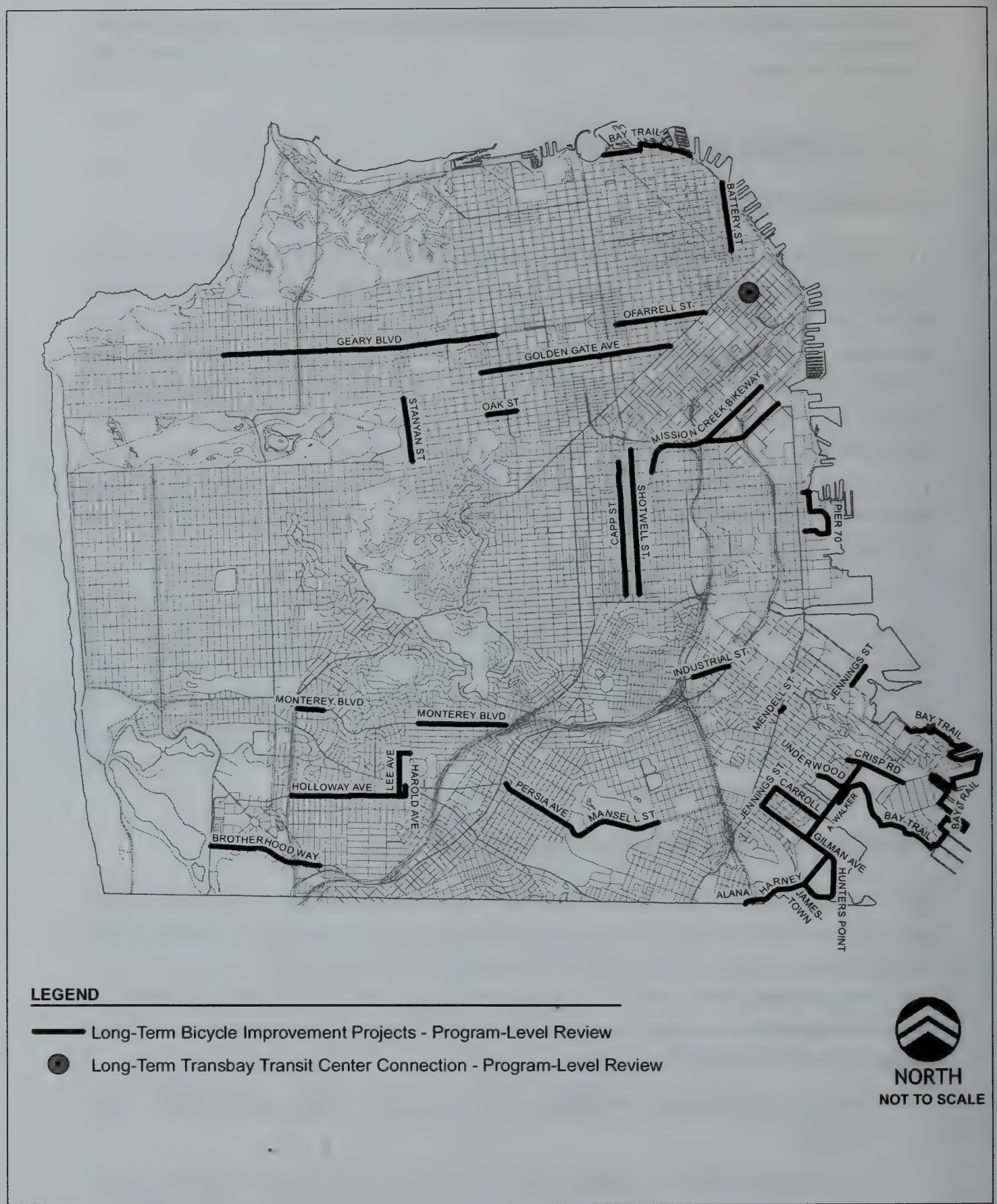
This section presents an assessment of the 24 long-term improvements that are proposed to be designed and implemented at some point in the future to complete the bicycle route network within San Francisco. These improvements would: complete the bicycle route network envisioned in the Bicycle Plan, close network gaps, refine and rationalize the bicycle route network, and improve safety and the bicyclist's experience. The long-term improvements are assessed on a program level because details of the long-term improvements have not been developed (as is the case for the near-term improvements presented in Subsection V.A.3 on p. V.A.3-1. This Subsection provides information about the potentially-significant environmental effects of the long-term impacts and identifies possible ways to minimize the potentially-significant impacts.

In addition, this Subsection provides a foundation for any necessary future environmental review documents that focus on the individual long-term improvements. As required by CEQA, and where necessary, project-level CEQA review would be conducted separately for the individual long-term improvements. The separate environmental review would evaluate site-specific impacts of the improvement project and may incorporate mitigation measures, as appropriate. The impact discussion and mitigation measures provided at the end of this Subsection apply to all of the long-term improvements, generally.

PROJECT LOCATION/PROJECT DESCRIPTION

Figure V.A.5-1 on p. V.A.5-2 presents the location of the proposed long-term improvements with respect to the existing bicycle route network and proposed near-term improvements. The long-term improvements, combined with the existing bicycle route network and proposed near-term improvements, would result in a comprehensive network of bicycle facilities linking the various neighborhoods within the City. Proposed long-term improvements are located throughout the City and are focused on:

- Improving existing and providing new east-west routes in the southern portion of San Francisco;
- Consolidating and rationalizing east-west routes in the northern portion of San Francisco connecting the Civic Center Area with the Haight-Ashbury and Richmond neighborhoods;



SOURCE: Wilbur Smith Associates, 2008.

SAN FRANCISCO BICYCLE PLAN

FIGURE V.A.5-1: LONG-TERM IMPROVEMENTS

- Providing bicycle-friendly options for north-south travel within the Mission neighborhood;
- Filling in gaps in the system throughout San Francisco;
- Providing local connections between the new Transbay Transit Center and the existing bicycle route network;
- Completing portions of the Bay Trail within the northeast waterfront and the Bayview; and
- Developing a Mission Creek Bikeway to connect the Mission District with the China Basin and Mission Bay neighborhoods.

As indicated above, the details of the long-term improvements are currently undefined. The anticipated long-term improvements may include, but are not limited to, the following design elements to improve bicycle travel:

- Installation of bicycle lanes, pathways or other bicycle facilities, including and in conjunction with the narrowing or removal of travel lanes;
- Pavement marking changes such as installation of colored pavement materials and the installation of sharrows;
- Signage changes;
- Modifications to bus zones;
- Modifications to parking configurations such as changes to the location, configuration, and number of metered or unmetered parking spaces and loading zones;
- Changes to the locations and configurations of curbs, sidewalks and medians;
- Widening of roadways and narrowing of sidewalks;
- Reconfiguration of intersections to improve bicycle crossings, including installation of bicycle boxes and bicycle traffic signals;
- Installation of traffic calming devices, including designation of bicycle boulevards that prioritize bicycle travel over other transportation modes; and
- Designation of shared bicycle and transit lanes.

LONG-TERM IMPROVEMENT L-1: BATTERY STREET BETWEEN CLAY STREET AND THE EMBARCADERO

Battery Street, between Clay Street and The Embarcadero, is a moderate volume street in the northern waterfront area of San Francisco. This 10-block (0.64 mile) section of Battery Street is not currently part of the bicycle route network. Battery Street is one-way southbound, and generally has three travel lanes, with parking on both sides of the street. The 10-Townsend Muni bus line runs along Battery Street (as well as Golden Gate Transit buses during the AM peak period).

Long-term improvements on this section would involve installation of Class II and/or Class III bicycle facilities in the southbound direction. Bicycle improvements to Battery Street would provide a southbound connection between existing Bicycle Route 5 on The Embarcadero and existing Bicycle Route 11 on Battery Street south of Clay Street (Existing Bicycle Route 11 runs as a one-way couplet northbound on Sansome Street and southbound on Battery Street and in both directions on Columbus Avenue). Design and implementation of long-term improvements on Battery Street would include coordination with the Golden Gate Transit to accommodate and minimize impacts on Golden Gate Transit bus operations.

LONG-TERM IMPROVEMENT L-2: BAY TRAIL IMPROVEMENTS IN THE VICINITY OF FISHERMAN'S WHARF

This long-term improvement would involve improvements to the San Francisco Bay Trail within the northeast portion of San Francisco. The current Bay Trail alignment through Fisherman's Wharf is on The Embarcadero and on Jefferson Street as an unimproved on-street trail. It is not part of the bicycle route network. The Bay Trail runs for a 0.2-mile segment of The Embarcadero between Powell Street and Taylor Street, for one block on Taylor Street between The Embarcadero and Jefferson Street, and for a 0.28-mile segment on Jefferson Street between Taylor Street and Hyde Street. Within the Fisherman's Wharf area, both The Embarcadero, and Jefferson Streets are one-way and serve only westbound traffic. The Bay Trail connects with existing Bicycle Route 5 on The Embarcadero south of North Point Street. The F-Market & Wharves Muni historic streetcar runs westbound on Jefferson Street between The Embarcadero and Jones Street.

LONG-TERM IMPROVEMENT L-3: BAY TRAIL IMPROVEMENTS IN THE VICINITY OF HUNTERS POINT

This long-term improvement would involve improvements to the San Francisco Bay Trail within the southeast portion of San Francisco. The Bay Trail alignment though the Bayview

Hunters Point area differs from the bicycle route network in this area. The Bay Trail runs as an unimproved on-street trail north/south on Ingalls Street and east/west on Yosemite Avenue, and connects with the existing Bicycle Route 5 on 3rd Street, existing Bicycle Route 7 on Keith Street, and existing Bicycle Route 805 on Carroll Avenue. Ingalls Street and Yosemite Avenue are not part of the bicycle network. The Bay Trail runs for a three-block (0.15 mile) segment of Ingalls Street between Ingalls Street and 3rd Street. Bath Ingalls Street and Yosemite Avenue have one travel lane in each direction and parking on both sides of the street. Improvements could involve coordinating the alignment of the Bay Trail with the existing Bicycle Routes and new bicycle facilities along these routes.

LONG-TERM IMPROVEMENT L-4: BAYVIEW TRANSPORTATION IMPROVEMENTS PROJECT

The Bayview Transportation Improvements Project (BTIP) includes eight build alternatives that would include changes to the existing bicycle route network in the South Basin area on streets proposed to be designated as access routes. The purpose of the BTIP is to develop a more direct access route between US 101 and the existing South Basin industrial area, as well as to the north and south gateways of Hunters Point Shipyard, and to reduce truck traffic on 3rd Street and on residential streets in the Bayview Hunters Point area. The BTIP is a traffic routing project, rather than a project that would increase roadway capacity along the route. The project is currently undergoing environmental review, and a Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) is expected to be published in Fall 2008. Following publication of the Draft EIS/EIR, and a public review and comment period, the San Francisco Board of Supervisors (BOS) would identify one alternative as the locally preferred alternative. A Final EIS/EIR, revised to include comments made by the public and regulating agencies and responses, and to identify the locally preferred alternative would be issued.

- For all BTIP Build Alternatives:
- Proposed relocation of Bicycle Route #805:
  - From: Arelious Walker Drive (between Carroll and Gilman Avenues) and Carroll Avenue (between Arelious Walker Drive and Jennings Street).
  - To: Gilman Avenue (between Arelious Walker Drive and Jennings Street) and Jennings Street (between Gilman and Carroll Avenues).
- For all BTIP Southern Build Alternatives:
  - Proposed bicycle lanes on Gilman Avenue between Donahue Street and Arelious Walker Drive.

- Proposed bicycle lanes on Harney Way Extension between Jamestown Avenue and Gilman Avenues.
- Proposed bicycle lanes on Jamestown Avenue Extension and Hunters Point Expressway.
- Proposed bicycle lanes on Alana Way between US 101 and Harney Way.
- Proposed bicycle lanes on Harney Way between Alana Way and Jamestown Avenue.

- For BTIP S1 Walker Bridge Build Alternative:
  - Proposed bicycle lanes on Arelious Walker Drive Extension between Bancroft Avenue and Crisp Avenue.
  - Proposed bicycle lanes on Crisp Avenue between Arelious Walker Drive Extension and Spear Street.
  - Proposed bicycle path along Crisp Avenue right-of-way between the intersection of Palou/Griffith and Arelious Walker Drive Extension.
- For BTIP S2 Griffith Bridge and S3 Ingalls Street Build Alternatives:
  - Proposed bicycle lanes on Crisp Avenue between the intersection of Palou Avenue/Griffith Street and Spear Street.
- For BTIP S4 Underwood Avenue Build Alternative:
  - Proposed bicycle lanes on Underwood Avenue between Hawes Street and Arelious Walker Drive Extension.
  - Proposed bicycle lanes on Crisp Avenue between Arelious Walker Drive Extension and Spear Street.
  - Proposed bicycle path along Crisp Avenue right-of-way between the intersection of Palou Avenue/Griffith Street and Arelious Walker Drive Extension.

LONG-TERM IMPROVEMENT L-5: BROTHERHOOD WAY BETWEEN ARCH STREET AND LAKE MERCED BOULEVARD

Brotherhood Way between Arch Street and Lake Merced Boulevard is a high volume east-west arterial[1] in the Park Merced neighborhood. This one-mile segment of Brotherhood Way is not currently part of the bicycle route network, although the section between Arch Street and the signalized crosswalk at St. Charles Street has a Class II bicycle lane in both directions of travel.

Brotherhood Way is a two-way divided arterial. Parking is permitted on either side of the street. The 88-BART Shuttle Muni bus line runs along Brotherhood Way east of Chumasero Drive during the AM and PM peak commute periods.

Long-term improvements on this section of Brotherhood Way may involve installation of Class II/or Class III bicycle facilities in both direction of travel. Bicycle improvements on this segment would close the gap between existing Bicycle Route 85 running north-south on Lake Merced Boulevard, and existing Bicycle Route 45 running on north-south on San Jose Avenue/Alemany Boulevard (see Subsection V.A.3 for near-term improvement Project 5-12: Sagamore Street and Sickles Avenue Bicycle Lanes, Alemany Boulevard to Brotherhood Way, and near-term improvement Project 5-3: Alemany Boulevard Bicycle Lanes, Rousseau Street to San Jose Avenue).

LONG-TERM IMPROVEMENT L-6: CAPP STREET BETWEEN 15TH STREET AND 26TH STREET

Capp Street between 15th Street and 26th Street is a low-volume residential street in the Mission District. This 11-block (1.23-mile) segment of Capp Street is not currently part of the bicycle route network. Capp Street is a north-south roadway, with one travel lane in each direction, and parking on both sides of the street. Intersections of Capp Street with east-west cross-streets are generally 2-way or all-way STOP sign-controlled; however, the intersections of Capp Street with 18th Street and 24th Street are signalized.

Long-term improvements on this segment of Capp Street may involve installation of Class II or Class III bicycle facilities. Bicycle improvements on Capp Street would facilitate north-south

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[1] In San Francisco arterials are classified as Major and Secondary Arterials. Major arterials are cross-town thoroughfares whose primary function is to link districts within the city and to distribute traffic to and from the freeways. Secondary arterials are primarily intra-district routes serving as collectors for the major thoroughfares. See Appendix F of the Wilbur Smith Associates *San Francisco Bicycle Plan Project Transportation Impact Study*, October 28, 2008 (TIS), for a description of various San Francisco General Plan roadway classifications.

bicycle travel within the Mission District. This new route would run parallel to existing Bicycle Route 45 on Valencia Street to the west, and existing Bicycle Route 33 on Harrison Street to the east. It would also connect with existing Bicycle Route 44 on 22nd Street, and existing Bicycle Route 60 on Cesar Chavez Street (see Subsection V.A.3 for near-term improvement Project 5-6: Cesar Chavez Street/26th Street Bicycle Lanes, Sanchez Street to US 101).

LONG-TERM IMPROVEMENT L-7: GEARY BOULEVARD BETWEEN 25TH AVENUE AND DIVISADERO STREET

Geary Boulevard between 25th Avenue and Divisadero Street is a high volume arterial in the Richmond and Western Addition neighborhoods. It is the primary east-west roadway and has two to three travel lanes in each direction and on-street parking on both sides of the street. The 38-Geary, 38L-Geary Limited, and the 31AX-Balboa "A" Express, 38AX and 38BX-Geary Express Muni bus lines run in this segment. Golden Gate Transit Runs on Geary Boulevard between Webster Street and Park Presidio Boulevard. Adjacent streets to the north and south of Geary Boulevard are generally local low to moderate volume residential/neighborhood-commercial streets, with one travel lane in each direction and parking on both sides of the street. Neither Geary Boulevard, nor Clement Street to the north, nor Anza Street to the south are part of the existing bicycle route network. In the eastern segment of this proposed long-term improvement corridor, existing Bicycle Route 16 runs in both directions (Class II facility) on Post Street.

Long-term improvements would be implemented within the corridor. These improvements would be either a Class II bicycle facility and/or Class III signed-route on one or more streets in the corridor. These improvements would be planned in conjunction with the ongoing Geary Corridor BRT project and may result in bicycle facility improvements on multiple streets north or south of Geary Boulevard. Design and implementation of long-term improvements on Geary Boulevard would include coordination with Golden Gate Transit to accommodate and minimize impacts on Golden Gate Transit bus operations.

Bicycle improvements within this 39-block (2.5-mile) corridor would facilitate bicycle travel within the core of the Geary Boulevard commercial corridor. Parallel east-west bicycle routes are on Lake Street (existing Bicycle Route 10) to the north of Geary Boulevard, and on Cabrillo Street (existing Bicycle Route 20) to the south of Geary Boulevard.

LONG-TERM IMPROVEMENT L-8: GOLDEN GATE AVENUE BETWEEN BAKER STREET AND MARKET STREET

Golden Gate Avenue between Baker Street and Market Street is a low to moderate volume arterial that runs through the Civic Center and the Western Addition neighborhood. This 19-block (1.7-mile) segment of Golden Gate Avenue is not currently part of the bicycle route network.

East of Divisadero Street, Golden Gate Avenue runs one-way eastbound with three travel lanes and parking on both sides of the street. West of Divisadero Street, Golden Gate Avenue is two-way, generally with one travel lane in each direction. Between Baker Street and midblock between Broderick Street and Divisadero Street, there is an eastbound bicycle lane on the south side of the street. The 16AX-Noreiga "A" Express and 16BX-Noriega "B" Express Muni bus lines run on Golden Gate Avenue between Franklin Street and Market Street during the morning peak period. Golden Gate Transit runs on Golden Gate Avenue between Webster and Hyde Street during the morning peak period.

Long-term improvements on this segment of Golden Gate Avenue would involve installation of Class II or Class III bicycle facilities. These improvements would extend the existing Bicycle Route 20 on Golden Gate Avenue west of Baker Street to the east and consolidate east-west bicycle travel routes between the Civic Center area and the University of San Francisco. This improvement would create a couplet with the westbound bicycle lanes proposed on McAllister Street as part of near-term improvement Project 3.3: McAllister Street Bicycle Lane, Market Street to Masonic Avenue. Design and implementation of long-term improvements on Golden Gate Avenue would include coordination with Golden Gate Transit to accommodate and minimize impacts on Golden Gate Transit bus operations.

The route would connect with north/south routes on Polk Street (existing Bicycle Route 345) and on Steiner Street (existing Bicycle Route 45). Also see near-term improvement Project 3.4: Polk Street Bicycle Lane, Market Street to McAllister Street, and near-term improvement Project 3-5: Scott Street Bicycle Lane, Fell Street to Oak Street.

LONG-TERM IMPROVEMENT L-9: HAROLD AVENUE BETWEEN HOLLOWAY AVENUE AND OCEAN AVENUE

Harold Avenue between Holloway Avenue and Ocean Avenue is a low-volume residential street in the Ingleside neighborhood. This one-block segment is not part of the existing bicycle route network, and would be improved in conjunction with long-term improvement L-10: Holloway Avenue between Harold Avenue and Junipero Serra Boulevard. Harold Avenue is

two-way, with one travel lane in each direction and parking on both sides of the street. The intersections of Harold Avenue with Ocean Avenue and with Holloway Avenue are unsignalized.

Long-term improvements on Harold Avenue would involve a Class II or Class III facility, with treatments to facilitate turns to and from Ocean Avenue (existing Bicycle Route 84). Existing Bicycle Route 90 runs east-west on Ocean Avenue, as a Class III (signed route only, with sharrows) facility. As noted above, the bicycle facility on Harold Avenue would provide a connection between existing Bicycle Route 84 on Ocean Avenue, and the existing Bicycle Route 90 which currently runs on Holloway Avenue between Font Street and Plymouth Avenue, but which would be extended to Harold Avenue as part of Long-Term Improvement L-10: Holloway Avenue between Harold Avenue and Junipero Serra Boulevard. Also see near-term improvement Project 8-3: Holloway Avenue Bicycle Lanes: Junipero Serra Boulevard to Varela Avenue.

LONG-TERM IMPROVEMENT L-10: HOLLOWAY AVENUE BETWEEN HAROLD AVENUE AND JUNIPERO SERRA BOULEVARD

Holloway Avenue between Harold Avenue and Junipero Serra Boulevard is a low to moderate volume street that connects Ocean Avenue with Lake Merced Boulevard in the Ingleside and Lake Merced neighborhoods. Between Plymouth Street and Junipero Serra Boulevard, Holloway Avenue is part of the existing Bicycle Route 90, a Class III wide curb lane facility. Existing Bicycle Route 90 is the primary east-west route in the Ingleside and Lake Merced neighborhoods, and provides a connection between the Balboa Park BART and Muni Metro stations and San Francisco State University. Within the 21-block segment of Holloway Avenue between Harold Avenue and Junipero Serra Boulevard, the 29-Sunset Muni bus line runs on the block between Beverly Street and Junipero Serra Boulevard.

Long-term improvements on this segment of Holloway Avenue would involve installation of Class II bicycle lanes, or sharrows as a Class III facility. This long-term improvement would extend bicycle route improvements associated with the near-term improvement Project 8-3: Holloway Avenue Bicycle Lanes, Junipero Serra Boulevard to Varela Avenue. Long-term improvements on this segment would be developed following completion of the ongoing traffic calming study being conducted as part of SFMTA's Livable Streets program. The traffic calming study area is bounded by Holloway Avenue between Junipero Serra Boulevard and Ashton Street, and Garfield Avenue between Junipero Serra Boulevard and Ashton Street.

LONG-TERM IMPROVEMENT L-11: INDUSTRIAL STREET BETWEEN LOOMIS STREET AND OAKDALE AVENUE

Industrial Street, between Loomis Street and Oakdale Avenue is a moderate volume arterial in the Bayview. Industrial Street connects Bayshore Boulevard with Oakdale Avenue. It has two travel lanes in each direction and parking on both sides of the street. The 24-Divisadero Muni bus line runs in both directions on Industrial Street. This 0.32-mile segment of Industrial Street is not currently part of the bicycle route network.

Long-term improvements on this section may involve implementation of Class II or Class III bicycle facilities in both directions. A new bicycle facility on this segment of Industrial Street would provide an alternative route to connect existing Bicycle Route 25 on Bayshore Boulevard south of Industrial Street with existing Bicycle Route 170 on Oakdale Avenue, via a lower-volume street than Bayshore Boulevard. Also see near-term improvement Project 5-4: Bayshore Boulevard Bicycle Lanes, Cesar Chavez Street to Silver Avenue.

LONG-TERM IMPROVEMENT L-12: JENNINGS STREET BETWEEN CARGO WAY AND EVANS AVENUE

Jennings Street, which extends about 1,100 feet between Cargo Way and Evans Avenue, is a low volume street in the Hunters Point neighborhood. Jennings Street connects Evans Avenue with the Port of San Francisco's Intermodal Container Terminals along Cargo Way. It has one travel lane in each direction and parking on both sides of the street. Jennings Street is not currently part of the bicycle route network.

Long-term improvements on this section may involve implementation of bicycle facilities in both directions. A new bicycle facility on Jennings Street would connect existing Bicycle Route 68 on Evans Avenue, with the bicycle route on Cargo Way proposed as part of near-term improvement Project 4-2: Cargo Way Bicycle Lanes, 3rd Street to Jennings Street, and would connect to the existing Bay Trail at the eastern terminus of Cargo Way at Heron's Head Park. Also see near-term improvement Project 4-3: Illinois Street Bicycle Lanes, 16th Street to Cargo Way.

LONG-TERM IMPROVEMENT L-13: LEE AVENUE BETWEEN HOLLOWAY AVENUE AND PHELAN AVENUE

Lee Avenue between Holloway Avenue and Phelan Avenue is a low-volume residential street in the Ingleside neighborhood. The Balboa Park Area Plan includes the proposed extension of Lee Avenue north of Ocean Avenue to connect with Phelan Avenue as part of the future

development of San Francisco City College. This segment is not part of the existing bicycle route network and would be improved in conjunction with long-term improvement L-10: Holloway Avenue between Harold Avenue and Junipero Serra Boulevard. Lee Avenue is two-way, with one travel lane in each direction and parking on both sides of the street. The intersection of Lee Avenue with Ocean Avenue is signalized, and the intersection with Holloway Avenue is unsignalized.

Long-term improvements on Lee Avenue would involve a Class II or Class III facility, with treatments to facilitate turns to and from Ocean Avenue. Existing Bicycle Route 84 runs east-west on Ocean Avenue, as a Class III (signed route only, with sharrows) facility. This improvement would provide a connection between existing Bicycle Route 84 on Ocean Avenue and the existing Bicycle Route 90 which currently runs on Holloway Avenue between Font Street and Plymouth Avenue, but which would be extended to Harold Avenue as part of long-term improvement Project L-10: Holloway Avenue between Harold Avenue and Junipero Serra Boulevard.

LONG-TERM IMPROVEMENT L-14: MANSELL STREET/PERSIA AVENUE BETWEEN OCEAN AVENUE AND UNIVERSITY STREET

Mansell Street between University Avenue and Dublin Street, and Persia Avenue between Dublin Street and Ocean Avenue are low to moderate-volume streets in the Excelsior neighborhood. This one-block segment is not part of the existing bicycle route network and would complement near-term improvement Project 5-9: Ocean Avenue Bicycle Lanes, Alemany Boulevard to Lee Avenue, near-term improvement Project 8-3: Holloway Avenue Bicycle Lanes, and long-term improvement L-10: Holloway Avenue between Harold Avenue and Junipero Serra Boulevard. Mansell Street has one to two travel lanes in each direction, while Persia Avenue has one travel lane in each direction. The 29-Sunset Muni bus line runs the length of Mansell Street and Persia Avenue between San Bruno Avenue and Mission Street.

Long-term improvements on Mansell Street and Persia Avenue would involve Class II and/or Class III facilities. A new bicycle route on Mansell Street and Persia Avenue would provide a connection between existing Bicycle Route 705 on Mansell Street that runs between San Bruno Avenue and University Street and existing Bicycle Route 84 that runs on Ocean Avenue between Alemany Boulevard and 19th Avenue. Completion of the near-term and long-term improvements would provide for a continuous east-west route between the Bayview and Lake Merced neighborhoods.

LONG-TERM IMPROVEMENT L-15: MENDELL STREET BETWEEN OAKDALE AVENUE AND PALOU AVENUE

Mendell Street between Oakdale Avenue and Palou Avenue is a pedestrian plaza in the Bayview neighborhood (on the block south of the Bayview Opera House). This one-block segment is not part of the existing bicycle network. Bicycling is not permitted within the plaza.

Long-term improvements on Mendell Street would involve bicycle facilities to permit bicyclists to use this segment to connect between existing Bicycle Route 170 on Oakdale Avenue and existing Bicycle Route 7 on Palou Avenue.

Long-Term Improvement L-16: Mission Creek Bikeway between Fourth Street and Harrison Street

The Mission Creek Bikeway, as currently envisioned, would include four major segments: Treat Avenue (between Harrison and Bryant Streets), Division Street (between Bryant and Vermont Streets), Eighth Street and Townsend Circle (between Vermont and Berry Streets), and the crossing to Mission Bay (Berry Street to Mission Creek Park bicycle path). Near-term improvement Project 2-6: Division Street Bicycle Lanes, 9th Street to 11th Street would be incorporated into the Mission Creek Bikeway.

The long-term improvement would provide a continuous bicycle route linking the corner of 16th and Harrison Streets to the bikeway planned along the south side of the Mission Creek Channel. To the extent possible, the bikeway would utilize the abandoned Mission Creek line of the Southern Pacific Railroad. The bikeway would provide a non-motorized access through the vehicle-oriented area under the Central Freeway.

The bikeway would consist of a combination of bicycle facilities along low volume streets. The Mission Creek Bikeway would connect to existing Bicycle Route 33 on Harrison Street, existing Bicycle Route 36 on 7th and 8th Streets, and existing Bicycle Route 123 on Henry Adams Street. The bikeway also would provide a connection between existing Mission and Potrero Hill neighborhoods and the Caltrain train station at 4th and Townsend Streets.

LONG-TERM IMPROVEMENT L-17: MONTEREY BOULEVARD CORRIDOR BETWEEN CIRCULAR AVENUE AND GENNESSEE STREET

Monterey Boulevard between Circular Avenue and Gennessee Street is a high volume arterial street in the Sunnyside neighborhood. It is the primary east-west roadway and has two travel lanes in each direction and on-street parking on both sides of the street. The 23-Monterey Muni bus line runs along this segment of Monterey Boulevard, and the 36-Terasita and 43-Masonic

Muni bus lines run on Monterey Boulevard between Gennessee Street and Foerester Street. Adjacent streets to the north and south of Monterey Boulevard are generally low to moderate volume residential streets, with one travel lane in each direction and parking on both sides of the street. Monterey Boulevard between Circular Avenue and Gennessee Street is not part of the existing bicycle route network, although west of Gennessee Street existing Bicycle Route 70 runs on Monterey Boulevard as a Class III facility. Between Circular Avenue and Gennessee Street, existing Bicycle Route 70 runs on Hearst Street.

Long-term improvements within the Monterey Boulevard corridor could include Class II bicycle facility and/or Class III signed-route along Monterey Boulevard, or on other streets in the corridor. Bicycle improvements within this 6-block (0.8-mile) corridor would rationalize the east-west bicycle route network in this area.

LONG-TERM IMPROVEMENT L-18: MONTEREY BOULEVARD CORRIDOR BETWEEN JUNIPERO SERRA BOULEVARD AND SAN BENITO WAY

Monterey Boulevard between Junipero Serra Boulevard and San Benito Way is a low volume local street in the St. Francis Wood neighborhood. This segment of Monterey Boulevard has one travel lane in each direction and on-street parking on both sides of the street. Monterey Boulevard between Junipero Serra Boulevard and San Benito Way is not part of the existing bicycle network. The segment of Monterey Boulevard between San Benito Way and Santa Clara Avenue is part of existing Bicycle Route 65 which runs north-south on San Benito Way between Ocean Avenue and Monterey Boulevard.

Long-term improvements within this 5-block (0.25-mile) segment of Monterey Boulevard could include Class II bicycle facility and/or Class III signed-route along Monterey Boulevard, or on other streets in the corridor.

LONG-TERM IMPROVEMENT L-19: OAK STREET BETWEEN BAKER STREET AND SCOTT STREET

Oak Street between Baker Street and Scott Street is a three-block segment of a high volume arterial that extends between Stanyan Street and Market Street. This three-block segment is not part of the existing bicycle network. Oak Street runs one-way eastbound with three travel lanes, and parking on both sides of the street. The 16AX/16BX-Noriega Express Muni buses run on Oak Street during the morning peak commute period.

Long-term improvements on this segment of Oak Street could involve installation of Class II or Class III bicycle facilities. This improvement would provide a connection between existing

Bicycle Route 51 on Baker Street, and the existing Bicycle Route 47 on Scott Street. This improvement would create the eastbound couplet to the bicycle lane that currently exists in the westbound direction on Fell Street, and would move the eastbound portion of existing Bicycle Route 30 from Hayes Street to Oak Street.

LONG-TERM IMPROVEMENT L-20: O'FARRELL STREET BETWEEN MARKET STREET AND POLK STREET

O'Farrell Street between Market Street and Polk Street is a moderate to high volume arterial that runs through the Union Square and Civic Center areas. This 9-block (0.8-mile) segment of O'Farrell Street is not currently part of the existing bicycle route network. O'Farrell Street runs one-way eastbound with two to three travel lanes and parking on both sides of the street. Between Polk Street and Mason Street the south travel lane is a Bus Only lane. The 38-Geary and 38-Geary Limited Muni bus lines run the length of the segment and the 27-Bryant Muni bus line runs on O'Farrell Street between Jones Street and Mason Street.

Long-term improvements on this segment of O'Farrell Street could involve the installation of Class II and/or Class III bicycle facilities. These improvements would create a new east-west connection in the southern portion of Union Square area. It would connect with the north/south route on Polk Street (existing Bicycle Route 345) and the northeast-southwest route on Market Street (existing Bicycle Route 50).

LONG-TERM IMPROVEMENT L-21: PIER 70 BETWEEN 18TH STREET AND 22ND STREET

Pier 70 is located within San Francisco's Central Waterfront, on an approximately 65-acre Port of San Francisco-owned site, generally between 18th and 22nd Streets, and east of Illinois Street. The site currently contains generally industrial uses, including ship repair, tow-away auto storage, artist studios, recyclers and storage facilities. The Port of San Francisco is conducting a public planning process to develop a master plan for the entire site. Development of this area would require extension of the existing city grid eastward into the site to provide an accessible framework of city streets. Current planning efforts envision the creation of walkable and bikeable streets, linked to the waterfront and to open space areas.

Long-term improvements at Pier 70 would likely include a combination of bicycle facilities, depending on the final street network and type and location of land uses and open space. Development of the site would include the completion of the San Francisco Bay Trail as close as possible to the perimeter of the site (without affecting maritime operations) as a Class I facility, as well as a network of new Class II bicycle lanes and Class III bicycle route designations on

new streets. The new facilities would connect with the existing Bicycle Route 5 on Illinois Street.

LONG-TERM IMPROVEMENT L-22: SHOTWELL STREET BETWEEN 14TH STREET AND 26TH STREET

Shotwell Street between 14th Street and 26th Street is a low-volume residential street in the Mission District. This 12-block (1.3-mile) segment of Shotwell Street is not currently part of the bicycle route network. Shotwell Street is a north-south roadway, with one travel lane in each direction and parking on both sides of the street. Intersections of Shotwell Street with east-west cross-streets are 2-way or all-way STOP sign-controlled.

Long-term improvements on this segment of Shotwell Street would facilitate north-south bicycling within the Mission District. This new route would run parallel to existing Bicycle Route 45 on Valencia Street to the west and existing Bicycle Route 33 on Harrison Street to the east. It would also connect with east-west routes, including the existing Bicycle Route 40 on 14th Street, existing Bicycle Route 44 on 22nd Street and existing Bicycle Route 60 on Cesar Chavez Street (see near-term improvement Project 5-6: Cesar Chavez Street/26th Street Bicycle Lanes, Sanchez Street to US 101).

LONG-TERM IMPROVEMENT L-23: STANYAN STREET BETWEEN FREDERICK STREET AND FULTON STREET

Stanyan Street, between Frederick Street and Fulton Street, is a moderate to high volume street in the Haight Ashbury neighborhood and forms the eastern edge of Golden Gate Park. This 9-block (0.6-mile) section of Stanyan Street is not currently part of the bicycle route network; however, between Frederick Street and Waller Street the travel lanes have sharrow indications. Stanyan Street is a north-south roadway and has one to two travel lanes in each direction with parking on both sides of the street. During peak periods, portions of Stanyan Street have tow-away restrictions. The 21-Hayes, 33-Stanyan, 7-Haight and 71/71L-Haight-Noriega Muni bus lines run along portions of Stanyan Street.

Long-term improvements on this section would involve installation of Class II and/or Class III bicycle facilities. Bicycle improvements on Stanyan Street would provide a north-south route adjacent to Golden Gate Park for bicyclists to connect to neighborhoods to the north, south and east of Golden Gate Park, and to connect with existing bicycle routes in the area, including the existing Bicycle Route 30 within the Panhandle, existing Bicycle Route 32 on Page Street, as well as existing bicycle routes within Golden Gate Park.

LONG-TERM IMPROVEMENT L-24: TRANSBAY TRANSIT CENTER CONNECTION

A new, multimodal Transbay Transit center is proposed to be constructed on the site of the existing Transbay Terminal on the blocks bounded by Beale, Mission, Second and Folsom Streets. The existing Transbay Terminal is located on Mission Street between First and Fremont Streets. The Project would provide a centralized location for public and private bus (AC Transit, Muni, Golden Gate Transit, Greyhound), paratransit, and rail (Caltrain) services in San Francisco's Financial District/South of Market Area and would enhance transit access for passengers arriving and departing from San Francisco. It would also improve connections to other local and regional transit providers and facilitate future expansion of regional express train service and the implementation of statewide high-speed rail service.[2]

Four existing designated bicycle routes are within the Transbay Transit Center area:

- Existing Bicycle Route 30 on Folsom Street (eastbound) and Howard Street (westbound);
- Existing Bicycle Route 50 on Market Street;
- Existing Bicycle Route 11 on Second Street; and,
- Existing Bicycle Route 5 on The Embarcadero

As part of Long-Term Improvement L-24, the street right-of-way may be reconfigured within the Transbay Transit Center area and the Transbay Redevelopment Project area. Phase I of the Transbay Transit Center is expected to be completed by 2014. Phase II, including completion of the Downtown rail connection, is anticipated to be completed by 2019.[3] The Transit Center District Plan is anticipated to complete environmental review in the fall of 2009, and to proceed through the city's decision making process thereafter. In the future, long-term improvements to the bicycle route network would be developed in this area, to provide both local connections between the new Transit Center and the existing bicycle route network, as well as regional connections. These improvements could be implemented on one or more streets in the area. Design and implementation of long-term improvements in the Transbay Transit Center Area would include coordination with Golden Gate Transit, AC Transit, Muni, Caltrain, and other transit providers to accommodate and minimize impacts on transit operations.

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2 Transbay Joint Power Association, 2006. Transit Center. Available online at *http://www.transbay* center. org/TransBay/content.aspx?id=40[Accessed September 25, 2008.]

3 Transbay Joint Power Association. 2006. Timeline. Available online at http://www.transbay center.org/TransBay/content.aspx?id=58 [Accessed September 25, 2008].

IMPACT ANALYSIS

Impacts associated with the long-term improvements would vary, depending on the type of improvement, the number of existing travel lanes, traffic volumes, and transit operations. Treatments included as part of the long-term improvements could include installation of bicycle lanes, pathways or other bicycle facilities; pavement marking changes such as installation of colored pavement materials and the installation of sharrows; signage changes; modifications to bus zones; modifications to parking configuration; changes to the locations and configurations of curbs, sidewalks and medians; widening of roadways and narrowing of sidewalks; reconfiguration of intersections; installation of bicycle boxes and bicycle traffic signals; installation of traffic calming devices; and, designation of shared bicycle and transit lanes.

Impacts associated with the long-term improvements would be expected to be similar to those described in Subsection V.A.3 of this EIR, namely, project-level analysis for the near-term improvements, since similar design elements would be utilized. This Subsection describes the range of potential impacts associated with the long-term improvements.

Traffic

Long-term improvements affecting travel lanes to provide for Class II bicycle lanes or Class III shared facilities, would include minor narrowing of travel lanes, sharrow pavement markings on existing travel lanes, and travel lane reductions to provide for a bicycle lane. Implementation of sharrows and minor narrowing of travel lanes would not substantially change the capacity of the roadway. The increased presence of bicyclists on these street segments may result in slower vehicle travel speeds and would depend on a number of factors such as the number of travel lanes, the lane widths, the vehicle and bicycle volumes (including if there is oncoming traffic), and the speed of bicyclists and vehicles. The increase in delay would generally be minimal and would only occur when both bicyclists and vehicles are present. Because drivers would be able to pass the bicyclists, the capacity of the street segment would not be substantially affected and intersection LOS would not substantially change. Traffic impacts associated with sharrow and minor narrowing of travel lanes would be less-than-significant. Implementation of long-term improvements could result in a reduction in roadway capacity and increased traffic delays, primarily if there is a reduction in the number of travel lanes required to accommodate a bicycle lane. Reduction in the number of travel lanes could subject vehicles, including transit using the affected roadways, to increased congestion and delays. Increased delays could result in drivers diverting to other, potentially less convenient, routes to access their destinations. The actual impact of a long-term improvement

on roadway capacity and traffic operations would depend on the length of the affected roadway segment, the number of travel lanes that would be available for vehicular flow, and the available green time for each movement.

The operational impact on signalized intersections would be considered significant when an improvement causes the intersection level of service to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F. The operational impacts on unsignalized intersections are considered potentially significant if the improvement results in the level of service at the worst approach to deteriorate from LOS D or better to LOS E or F and Caltrans signal warrants would be met, or would cause Caltrans signal warrants to be met when the worst approach is already operating at LOS E or F.[4] In addition, the improvement may result in significant adverse impacts at intersections that operate at LOS E or F under existing conditions depending upon the magnitude of the improvement's contribution to the worsening of the average delay per vehicle.

Implementation of mitigation measures could reduce any long-term improvement's impacts to a less-than-significant level (potential mitigation measures that could be implemented to reduce potential impacts are presented on p. V.A.5-26). However, in some instances where intersections remain at LOS E or F conditions even with mitigation, impacts may not be reduced to a less-than-significant level. In some instances, the right-of-way geometry may not permit implementation of mitigation. Therefore, as a whole, the long-term improvements project impacts may be considered potentially significant and unavoidable.

Transit

Potential impacts on transit operations associated with the long-term improvements include:

- Increased travel times for transit vehicles on streets where long-term improvements reduce capacity of roadways and result in significant increases in delay.
- Increased difficulty for buses to pull into and out of curb bus stops due to reconfiguration of bus stops to accommodate bicycle lanes.

The operational impact on transit would be considered significant if an improvement project results in an increase in transit delay equal to or greater than the scheduled peak period

[4] In order to ensure that the advantages outweigh the disadvantages of installing a signal, and to provide some consistency in the application of signals, a series of signal warrants for the traffic and bicycle signals have been developed to define the minimum conditions (e.g., the minimum hourly traffic volumes at approaches to intersection) under which further consideration of a signal is appropriate.

headway. Implementation of mitigation measures could reduce any particular long-term improvement's impacts to a less-than-significant level (potential mitigation measures that could be implemented to reduce potential impacts are presented on p. V.A.5-26). However, in some instances where intersections remain at LOS E or F conditions even with mitigation, impacts may not be reduced to a less-than-significant level. In some instances, the right-of-way may not permit implementation of mitigation. Therefore, as a whole, the long-term improvements project impacts may be considered potentially significant and unavoidable.

Parking

Implementation of long-term improvements could result in a net increase or decrease in the number of on-street parking spaces. The impact of a decrease in on-street parking supply would depend on the number of parking spaces that would be eliminated, the location of the spaces, and the overall parking occupancy in the area. The loss of a few parking spaces would generally not be noticeable within an area where on-street parking is not fully occupied, and available parking supply exists to accommodate the displaced vehicles. However, the loss of a few parking spaces in an area where parking supply is constrained and generally fully occupied, would result in an increased competition for on-street, and potentially off-street, parking spaces.

In San Francisco, parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact under CEQA but rather a social effect. The loss of parking may cause potential indirect physical effects, which would include cars circling and looking for a parking space in neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to some drivers, aware of constrained parking conditions in a given area, shifting travel modes. Hence, any secondary environmental impacts that may result from a shortfall in parking would be minor. Therefore, any net reduction in on-street parking supply would not result in significant parking impacts.

Pedestrian

In general, impacts on pedestrian operations would occur if projects included sidewalk narrowing which resulted in inadequate clear walkway width to accommodate the pedestrian demand, or roadway widening or removal of center medians that which resulted in insufficient green time for pedestrians to cross the roadway. However, these conditions would not occur, as the design of the long-term improvements would be required to safely accommodate pedestrian travel. The amount of green time provided for pedestrian crossing at intersections is

based on the requirements of the California MUTCD to ensure that sufficient green time would always be available to safely accommodate pedestrian crossings at signalized intersections. The design for roadway widening that would reduce sidewalk widths would be required to provide for a minimum clear walkway area to accommodate persons traveling in wheelchairs and to maintain LOS C walkway conditions. If sidewalk narrowing is proposed under any of the bicycle projects, the sidewalk width would be consistent with SFMTA's minimum clear walkway zone guidelines, such as those contained in the *Bicycle Route Placement Criteria*.[5] In addition, in June 2008 the Planning Department and SFMTA published the draft *San Francisco Better Streets Plan*, which provides guidance on sidewalk design.[6] Therefore, long-term improvements would be required to be designed to maintain acceptable pedestrian operating conditions, and would not result in significant pedestrian impacts.

Bicycle

Overall, implementation of the long-term improvements would have a beneficial effect of improving conditions and safety for bicyclists by addressing deficiencies and gaps within the bicycle route network. Implementation of long-term improvements would not result in significant bicycle impacts.

Loading

Implementation of the long-term improvements to accommodate bicycle lanes could result in elimination of curb parking areas currently dedicated to yellow commercial vehicle freight loading zones or active passenger loading/unloading zones. The impact of a loss of on-street parking, including on-street white passenger loading/unloading and yellow commercial freight loading zones, would depend on the number of spaces that would be eliminated and the location of the spaces and the availability of alternate accommodations for loading/unloading activities. The loss of yellow commercial and white passenger loading/unloading zones could result in double-parking within the travel lane or the bicycle lane. Double-parking would not

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5 The technical information contained in this section is based on the Wilbur Smith Associates *San Francisco Bicycle Plan Project Transportation Impact Study*, October 28, 2008, Appendix F. This document is on file and available for public review by appointment at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, as part of Case File No. 2007.0347E.

6 The draft Better Streets Plan, June 2008, provides guidance in accommodating the competing needs for street space, and prioritizing the needs of walking, bicycling and transit use. Chapter 4 of the draft Better Streets Plan includes guidance on recommended and standard minimum sidewalk widths. The draft Better Streets Plan is currently out for public review and comments, and is available online at: http://www.sfgov.org/site/uploadedfiles/planning/Citywide/Better_Streets/Draft_BSP_4_Approac.pdf

necessarily impact loading activities or impact vehicle and bicycle flow, if traffic volumes are low and/or adjacent travel lanes are available for traffic to bypass the vehicles parked in the travel or bicycle lane. In situations where on-street parking is removed and the loading demand cannot be reasonably accommodated within existing adjacent locations, and roadway right-of-way is constrained, loading operations may result in a potential significant impacts.

Implementation of mitigation measures could reduce the long-term improvement's impacts to a less-than-significant level (potential mitigation measures that could be implemented to reduce potential impacts are presented on page V.A.4-24). However, in some locations with a high volume of loading demand, impacts may not be reduced to a less-than-significant level if the mitigation cannot be implemented. Therefore, the long-term improvements project loading impacts may be considered potentially significant and unavoidable.

CUMULATIVE CONDITIONS

This assessment evaluates the potential for multiple long-term improvements to result in cumulative impacts when viewed in connection with the effects of other past, present, and reasonable foreseeable future projects, including the near-term improvements analyzed in Subsection V.A.3, and the Bicycle Plan Actions analyzed at a programmatic level in Subsection V.A.2. The potential for cumulative impacts would depend on the geographic location of the near-term and long-term improvements, and the distribution and intensity of development projects throughout the City and their travel demand characteristics.

Cumulative impacts would be expected to be similar to those described in Subsection V.A.3, project-level analysis for the near-term improvements. This Subsection describes the potential cumulative impacts associated with the long-term improvements. Potential mitigation measures that could be implemented to reduce potential impacts are presented beginning on p. V.A.5-26.

Traffic

Implementation of long-term improvements could result in a reduction in roadway capacity and increased traffic delays, primarily if there is a reduction in the number of travel lanes required to accommodate a bicycle lane. Reduction in the number of travel lanes could subject vehicles, including transit using the affected roadways, to increased congestion and delays. Increased delays could result in drivers diverting to other, potentially less convenient, routes to access their destinations. The actual impact of a long-term improvement on roadway capacity and traffic operations would depend on the length of the affected roadway segment, the

number of travel lanes that would be available for vehicular flow, whether intersections are signalized or STOP-sign controlled, and the available green time for each movement at signalized intersections.

As indicated in Subsection V.A.3 of this EIR, as a result of increases in background traffic volumes, numerous intersections within San Francisco are projected to operate poorly under future year 2025 Cumulative conditions. At some locations, implementation of improvements would result in significant cumulative impacts (i.e., cause LOS operating conditions to change from LOS D or better to LOS E or LOS F, or from LOS E to LOS F), while at other locations that would operate at LOS E or F without the improvements. The improvements may be determined to represent a significant contribution to the cumulative impacts. Implementation of mitigation measures could reduce the cumulative impacts of the long-term improvements to a less-than-significant level. However, in some instances where intersections remain at LOS E or F conditions even with mitigation, mitigation is incompatible with the proposed improvement, or roadway geometry precludes implementation of mitigation, impacts may not be reduced to a less-than-significant level. Therefore, the long-term improvement projects would result in significant cumulative impacts, and traffic impacts may be considered potentially significant and unavoidable.

Transit

Under cumulative conditions, transit operations would be substantially affected by the intersection operating conditions. As described above for traffic impacts, due to background traffic volume increases, numerous intersections within San Francisco are projected to operate poorly under future year 2025 Cumulative conditions. If implementation of long-term improvements results in an increase in transit delay in both directions equal to or greater than six minutes, increases in overall vehicle delays at intersections could result in significant operational impacts on transit routes. Implementation of mitigation measures could reduce the long-term improvements' impacts to a less-than-significant level. However, in some instances where either existing or future cumulative conditions where intersections remain at LOS E or F conditions even with mitigation, mitigation is incompatible with the proposed improvement, or roadway geometry precludes implementation of mitigation, transit delays may not be reduced to a less-than-significant level. Therefore, the long-term improvements would result in significant cumulative impacts on transit operations, and transit impacts would be considered potentially significant and unavoidable.

Parking

The projected growth in residential housing units and employment within San Francisco would result in increased parking supply and demand. The extent to which new parking demand would be accommodated would depend on the parking supply that new development would provide and intensity of uses, however, in-general on-street parking utilization is anticipated to increase. Implementation of long-term improvements could result in a net increase or decrease in the number of on-street parking spaces. The impact of a decrease in on-street parking supply would depend on the number of parking spaces that would be eliminated, the location of the spaces, and the overall future parking occupancy in the area. The loss of a few parking spaces would generally not be noticeable within an area where on-street parking is not fully occupied and available parking supply exists to accommodate the displaced vehicles. However, the loss of a few parking spaces in an area where parking supply is constrained and generally fully occupied would result in an increased competition for on-street, and potentially off-street, parking spaces.

Parking supply is not considered a permanent physical condition, and changes in the parking supply would not be a significant environmental impact under CEQA, but rather a social effect. The loss of parking may cause potential indirect physical effects, which would include cars circling and looking for a parking space in neighboring streets. The secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to some drivers, aware of constrained parking conditions in a given area, shifting travel modes. Hence, any secondary environmental impacts that may result from a shortfall in parking would be minor. Therefore, any net reduction in on-street parking supply would not result in significant cumulative parking impacts.

Pedestrian

In general, impacts on pedestrian operations would occur if projects included sidewalk narrowing which resulted in inadequate clear walkway width to accommodate the pedestrian demand, or roadway widening or removal of center medians that which resulted in insufficient green time for pedestrians to cross the roadway. However, these conditions would not occur, as the design of the long-term improvements would be required to safely accommodate pedestrian travel. The amount of green time provided for pedestrian crossing at intersections is based on the requirements of the California MUTCD to ensure that sufficient green time would always be available to safely accommodate pedestrian crossings at signalized intersections. The design for roadway widening that would reduce sidewalk widths would be required to provide for a minimum clear walkway area to accommodate persons traveling in wheelchairs and to

maintain LOS C walkway conditions. Therefore, long-term improvements would be required to be designed to maintain acceptable pedestrian operating conditions, and would not result in significant cumulative pedestrian impacts.

Bicycle

Implementation of the long-term and near-term improvements, and the actions within the Bicycle Plan would have a beneficial effect of improving conditions and safety for bicyclists by addressing deficiencies and gaps within the bicycle route network, and encouraging bicycling as an alternative mode. Implementation of long-term improvements would not result in significant cumulative bicycle impacts.

Loading

The projected cumulative growth in commercial activities within San Francisco would result in increased commercial vehicle loading/unloading activities. Implementation of the long-term improvements to accommodate bicycle lanes could result in elimination of curb parking areas currently dedicated to yellow commercial vehicle freight loading zones, or active passenger loading/unloading zones. The impact of a loss of on-street parking, including on-street white passenger loading/unloading and yellow commercial freight loading zones, would depend on the number of spaces that would be eliminated and the location of the spaces, and the availability of alternate accommodations for loading/unloading activities. Double-parking of vehicles within the travel or bicycle lanes would not necessarily impact loading activities or impact vehicle and bicycle flow, if traffic volumes are low and/or adjacent travel lanes are available for traffic to bypass the vehicles parked in the travel or bicycle lane. In situations where on-street parking is removed and the loading demand cannot be reasonably accommodated within existing adjacent locations, and roadway right-of-way is constrained, loading operations may result in a potential significant cumulative impacts to loading.

Implementation of mitigation measures could reduce the long-term improvements' impacts to a less-than-significant level (potential mitigation measures that could be implemented to reduce potential impacts are presented on p. V.A.5-26). However, in some locations with a high volume of loading demand, at locations where mitigation is incompatible with the proposed improvement, or where roadway geometry precludes implementation of mitigation, impacts may not be reduced to a less-than-significant level; therefore, the long-term improvements would result in significant cumulative impacts, and loading impacts would be considered to be significant and unavoidable.

MITIGATION MEASURES

This section presents the transportation mitigation measures that could be implemented to reduce the significant impacts of long-term improvements and significant cumulative impacts. In some instances, feasible mitigation measures would not be available, and impacts would remain significant and unavoidable. The potential impacts for the long-term improvements are identified as TR-LTx. The corresponding mitigation measures are identified as M-TR-LTx.x, where x is an identifier for different treatments to address one type of impact such as Traffic.

Traffic

Significant Impact TR-LT1:

Both individually, and in a cumulative scenario, the implementation of long-term improvements could result in a reduction in roadway capacity and increased traffic delays. Reduction in the number of travel lanes could subject vehicles, including transit using the affected roadways, to increased congestion and delays.

Measures that could potentially reduce significant traffic impacts to less-than-significant levels include:

M-TR-LT1.1:

Unsignalized intersections may be signalized, as appropriate.

M-TR-LT1.2:

Changes may be made to signal timing (including redistributing green time from one phase to another, lengthening of signal cycle times, changing permitted movements to protected movements, signal coordination/progression), as appropriate.

M-TR-LT1.3:

Changes may be made to roadway geometry (e.g., changing shared lanes to exclusive turn lanes, proving exclusive right-turn or left-turn pockets), as appropriate.

M-TR-LT1.4:

Floating bicycle lanes[7] may be implemented, where on-street parking is restricted during peak periods, to provide for additional vehicular capacity, as appropriate.

M-TR-LT1.5:

Parking may be eliminated to provide for additional vehicular capacity, as appropriate.

In some instances, where either existing or projected cumulative conditions at intersections operate at LOS E or LOS F conditions, mitigation measures would not be available, and in these cases traffic impacts would remain significant and unavoidable.

Transit

Significant Impact TR-LT2:

Both individually, and in a cumulative scenario, the implementation of long-term improvements may cause transit to experience increased travel time on streets where these improvements reduce capacity of roadways and result in significant increases in delay. Buses may experience increased difficulty pulling into and out of curb bus stops due to reconfiguration of bus stops to accommodate bicycle lanes.

Potential mitigation measures that could reduce significant transit impacts to less-than-significant levels include:

M-TR-LT2.1:

Signal pre-emption or other transit priority techniques may be applied to reduce overall transit travel times, as appropriate.

M-TR-LT2.2:

Bicycle proposals may be modified to create discontinuities in bicycle treatment to avoid transit delays, as appropriate.

M-TR-LT2.3:

Bus stops may be reconfigured to facilitate bus operations, as appropriate.

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[7] A floating bicycle lane is provided on streets where on-street parking is desired during non-peak traffic periods, and during peak periods there would be a tow-away restriction to provide an additional travel lane. The bicycle lane shifts locations when the tow-away restriction is in effect. When parking is allowed, bicyclists use the bicycle lane space between the parked vehicles and the solid white stripe indicating the bicycle lane. When parking is not allowed, bicyclists move to the right and use the shoulder bicycle lane.

M-TR-LT2.4:

Parking may be eliminated to substitute for lane removal and/or increase roadway capacity, as appropriate.

In some instances, where either existing or projected cumulative conditions at intersections operate at LOS E or LOS F conditions, feasible mitigation measures would not be available, and transit impacts would remain significant and unavoidable.

Parking

No mitigation measures are required.

Pedestrian

No mitigation measures are required.

Bicycle

No mitigation measures are required.

Loading

Significant Impact TR-LT3:

Both individually, and in a cumulative scenario, the implementation of long-term improvements may result in elimination of curb space currently dedicated to yellow commercial vehicle freight loading zones, or active passenger loading/unloading zones.

The following mitigation measures could reduce potentially significant loading impacts to less-than-significant levels.

M-TR-LT3.1:

Where feasible and required to respond to loading zone impacts, on-street parking layouts shall be modified to accommodate additional yellow commercial freight loading zones.

M-TR-LT3.2:

Traffic management strategies shall be developed and implemented, where feasible, to accommodate short-term passenger loading/unloading activities.

In some locations, feasible mitigation measures would not be available, and loading impacts would remain significant and unavoidable.

SUMMARY OF PROGRAM LEVEL REVIEW OF LONG-TERM IMPROVEMENTS

As described under 'Impact Analysis,' above, impacts associated with the long-term improvements would vary depending on the type and location of the improvement. To the extent that the long-term improvements are similar to the near-term improvements described in Subsection V.A.3 of this EIR, the impacts of specific improvements would be similar as well. The range of impacts associated with the long-term improvements is summarized, below.

Traffic

Implementation of sharrows and minor narrowing of travel lanes would be less than significant. Where vehicular travel lanes are converted to bike lanes, the loss of a travel lane could result in increased traffic congestion and delays. To the extent that increased traffic and delays result in operational impacts such that intersection LOS drops below LOS D, these impacts would be considered potentially significant. In cases where roadway geometry precludes mitigation, or where intersection LOS remains at E or F conditions with mitigation, impacts would be potentially significant and unavoidable.

Transit

If long-term improvements result in decreased roadway capacity and corresponding delay, transit could be affected. If transit delays drop below the scheduled peak period headway, impacts would be considered significant. In some locations roadway geometry may preclude mitigation, in others mitigation may not be sufficient. In locations where intersections remain at LOS E or F, impacts would be potentially significant and unavoidable.

Parking

Some long-term improvements could result in the gain or loss of on-street parking. However, in San Francisco changes in the parking supply are not considered significant under CEQA, therefore impacts would be less than significant.

Pedestrian

To the extent that sidewalk narrowing is proposed, long-term improvements would be required to be designed to maintain acceptable pedestrian operating conditions, and would not result in significant pedestrian impacts.

Bicycle

Overall, the implementation of long-term improvements would have a beneficial effect for bicycles; therefore no impacts would occur.

Loading

Implementation of long-term improvements could result in elimination of existing loading zones which could result in double-parking within travel or bicycle lanes. In some locations mitigation measures could reduce impacts to a less than significant level, in other locations mitigation measures are not feasible and impacts would be potentially significant and unavoidable.

Long-Term Improvement Measure – Loading: Both individually, and in a cumulative scenario, the implementation of long-term improvements to accommodate bicycle lanes could result in elimination of curb space currently dedicated to yellow commercial vehicle freight loading zones or active passenger loading/unloading zones.

6. CONCLUSION

The Bicycle Program is an ongoing program for the City of San Francisco. At its foundation is the San Francisco Bicycle Plan (Bicycle Plan), which consists of goals and objectives that reflect the City's commitment to improve the quality of life of its residents and to expand the role and importance of bicycle transportation in the City. Furthermore, the Bicycle Plan provides an overview of the components for a successful bicycle program including the bicycle route network; other bicycle-related facilities and programs such as bicycle parking; education; outreach; enforcement; and the implementation of citywide policies, including amendments to the *San Francisco General Plan*, *Planning Code* and *Transportation Code*, which support the ongoing program. Together these enable the City to provide the safe and attractive environment needed to promote bicycling as a transportation mode.

In order to facilitate travel by bicycle within San Francisco, the City adopted its first bicycle plan in 1997. An update of the existing 1997 San Francisco Bicycle Plan was initiated by the Bicycle Program staff in 2002. The 2002 planning process resulted in the development of the Bicycle Plan Policy Framework (May 2005), which updated the goals and objectives from the existing 1997 Bicycle Plan and added action items to better define the necessary steps to achieve the stated goals and objectives, and the drafting of the Bicycle Plan Network Improvement Document (NID) (April 2005), which described the existing bicycle route network (a series of interconnected streets and pathways on which bicycling is encouraged), and identified specific potential projects, both near-term[1] and long-term, to improve the bicycle route network. These documents were published by SFMTA in 2005.

The April 2005 draft NID identified many potential improvements for the bicycle route network and included specific design treatments for 18 network improvement projects to address gaps within the bicycle route network. The April 2005 draft NID presented information regarding the opportunities and constraints with respect to implementation of improvements to the network. With the refinement of project designs for the 60 near-term improvements, the April 2005 draft NID has been superseded. Relevant sections of the April 2005 draft NID have been incorporated into Chapter 1 of the 2008 updated Bicycle Plan[2] (a policy document) regarding the existing bicycle

[1] Near-term refers to bicycle improvement projects which would be implemented within five years of project approval. The time line for the implementation of these near-term improvements is dependent upon completion of environmental review and the lifting of the current California Superior Court injunction prohibiting installation of bicycle facilities.

[2] This document is referred to herein as the San Francisco Bicycle Plan.

route network. Other sections of the April 2005 draft NID are manifest in the near-term, long-term, and minor improvements, which are being analyzed as part of the environmental review process for the Bicycle Plan Project. In this Chapter, all of these proposed improvements and policy goals, objectives, and actions have been reviewed and analyzed for their potential to cause significant impacts to the physical environment.

None of the policy goals, objectives, and actions would, in themselves, have a direct significant effect on the physical environment. The predictable indirect impact of implementing the policy goals, objectives, and actions would be the implementation of the proposed improvements which are presented in the Bicycle Plan. Therefore, the implementation of policy goals, objectives, and actions could indirectly lead to the same impacts as identified for the actual improvement projects discussed in Subsections V.A.3 (p V.A.3-1), V.A.4 (p V.A.4-1), and V.A.5 (p V.A.5-1). These potential indirect effects include both significant, and significant and unavoidable impacts. These impacts are enumerated and discussed in detail in Subsections V.A.3 (p V.A.3-1), V.A.4 (p V.A.4-1), and V.A.5 (p V.A.5-1). The implementation of the policy goals, objectives, and actions proposed under the Bicycle Plan would have no other potentially-significant impacts on the physical environment.

Subsection V.A.3, p V.A.3-1, reviews the impacts resulting from implementation of the 60 near-term improvement projects. These projects include design elements such as the reconfiguration or reduction in lanes in a section of roadway, a relocation of an existing passenger loading zone, and an elimination of parking spaces to allow space for placement of a bicycle lane. These are the Bicycle Plan projects with the most obvious implications for bicycle and other traffic circulation in the City of San Francisco. This section identifies project-level impacts including both potentially-significant impacts, and significant and unavoidable impacts. Specifically, there would be a potential reduction of traffic levels-of-service on some roadway segments and at some intersections, a potential slowing of transit movement in specific locations, and a potential reduction of truck loading spaces in specific locations within the project area. Of the remaining elements reviewed in the Subsection V.A.3, p V.A.3-1, project level review (pedestrians, bicycles, and parking), all impacts were identified as being less-than-significant or as having no potential to impact the physical environment.

Subsection V.A.4, p V.A.4-1, studies the impacts resulting from implementation of nine minor improvements proposed for use on an as needed basis by the Bicycle Program to improve conditions for bicyclists. Minor improvement projects include the installation of sharrows, installation of bicycle parking within the street right of way, the installation of bicycle boxes at intersections, minor pavement marking changes, the installation of colored pavement materials for

bicycle facilities, minor signage, minor traffic signal changes, and on-street vehicle parking changes. These treatments would be implemented on an as needed basis to address deficiencies for the bicycle route network or further the goals of the Bicycle Plan. No significant program-level impacts would arise from these minor improvements, either as a result of the individual improvements, or reviewing the improvements in a cumulative context.

Subsection V.A.5, p V.A.5-1, studies the impacts resulting from implementation of long-term improvements under the Bicycle Plan. These improvements include area-specific changes in circulation patterns, and includes projects with fairly broad goals such as developing a given intersection/block area as a safe bicycle-friendly area. This section identifies four potentially-significant and unavoidable impacts that could result from long-term improvements. These potential program-level impacts include (a) a potential to increase traffic delays in some areas of the City; (b) a potential to cause a significant adverse impact to intersection levels-of-service; (c) a potential to slow transit vehicle movement in some locations; and (d) a potential to eliminate some curb space, currently used for passenger loading/unloading or commercial loading/unloading. All of these potential impacts were identified as being potentially significant and unavoidable. Aside from these potential areas of impact, no significant environmental impacts were identified.

Taken as a whole, the transportation analyses identify several potentially-significant but potentially-mitigable impacts. Minor improvements would not substantially change the capacity of the roadways, and would not result in significant impacts on traffic, transit, pedestrian, bicycle, parking and loading conditions. The long-term improvements would not result in significant impacts on pedestrian, bicycles, and parking conditions. However, because the long-term improvements may include reduction in the travel lanes, there may be significant impacts on traffic and transit operations in both the program-level and cumulative analyses. In addition, removal of on-street passenger and commercial vehicle loading/unloading zones as part of on-street parking removals could result in potentially-significant impacts at locations where there may be high loading demand and nearby on-street facilities to accommodate the demand not available. This finding applies to both the program-level and cumulative analyses. Potential measures to reduce impacts on traffic, transit, and loading have been identified. However, no determination may be made as to the feasibility of any of these measures in a particular location until the specific location and project designs are known.

The long-term improvements would be composed of design elements similar to those for the near-term improvements and therefore, the proposed mitigations measures may reduce significant impacts to less-than-significant levels as demonstrated by the development of mitigation measures

for some of the near-term improvements. However, in some instances impacts may not be reduced to less-than-significant levels and impacts may be considered significant and unavoidable. Also, in some instances, where either existing or projected cumulative conditions at intersections already operate or will operate at LOS E or LOS F conditions without the potential long-term projects, feasible mitigation measures may not be available. In these instances impacts may remain significant and unavoidable.

The aforementioned potentially-significant impacts were identified, and mitigation measures were proposed for the near-term improvements, and mitigation measures were proposed for each impact to reduce the given impact to less than significant. However, the mitigation measures proposed for some impacts would require further study and analysis to determine how effective the proposed mitigation measure actually would be. Under CEQA, mitigation measures cannot be predicated on future studies and analysis. Therefore, this report has taken the conservative position of presuming that these impacts will not be effectively mitigated by the proposed mitigation measure, and has identified these impacts as remaining significant after mitigation.

The potential transportation-related impacts of the Bicycle Plan Project include a number of potentially-significant and unavoidable impacts. These significant and unavoidable impacts are listed below and are grouped by impact category and geographic cluster:

Traffic

- The long-term potential and cumulative potential to increase traffic delay in some areas of the City, through the reduction of roadway capacity and specifically the reduction in the number of lanes available for automotive vehicle use.
- The long-term potential and the cumulative potential (which considers impacts of both the Bicycle Plan and other development anticipated to occur around the project area) to cause a significant adverse impact to some intersection levels-of-service.
- The near-term and long-term potential, and the cumulative potential (which considers impacts of both the Bicycle Plan and other development anticipated to occur around the project area), to cause a significant adverse impact to intersection levels-of-service at:

  Cluster 2

  - 2nd Street/Bryant Street
  - 2nd Street/Harrison Street
  - 2nd Street/Folsom Street

- 2nd Street/Howard Street
- 2nd Street/Townsend Street
- 5th Street/Bryant Street
- 5th Street/Howard Street
- 5th Street/Brannan Street
- 7th Street/Townsend Street
- 10th Street/Brannan Street/Potrero Avenue/Division Street
- 11th Street/Bryant Street/Division Street
- Church Street/Market Street/14th Street
- Potrero Avenue/16th Street
- Fremont Street/Howard Street

Cluster 3

- Masonic Avenue/Fell Street
- Masonic Avenue/Turk Street
- Masonic Avenue/Fulton Street
- Masonic Avenue/Geary Boulevard

Cluster 5

- Bayshore Boulevard/Jerrold Avenue/U.S. 101 Off-ramp
- Bryant Street/Cesar Chavez Street
- Evans Avenue/Cesar Chavez Street
- Guerrero Street/Cesar Chavez Street
- Mission Street/Cesar Chavez Street
- South Van Ness Avenue/Cesar Chavez Street

Cluster 6

- Burnett Avenue/Clipper Street/Portola Drive
- Fowler Street/Portola Avenue

- Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive

Transit

- The long-term potential to slow some transit movement in some locations.
- The near-term potential and cumulative potential to slow some transit movement in some locations:

  Cluster 2

  - Muni bus line 9
  - Muni bus line 10
  - Muni bus line 30
  - Muni bus line 45
  - SamTrans bus line 292

  Cluster 3

  - Muni bus line 43

  Cluster 5

  - Muni bus line 12
  - Muni bus line 27

  Cluster 6

  - Muni bus line 48
  - Muni bus line 52

Loading

- The long-term potential to eliminate some curb space currently used for passenger loading/unloading or commercial freight loading/unloading.
- The near-term potential and cumulative potential to eliminate some curb space currently used for passenger loading/unloading or commercial freight loading/unloading.

  Cluster 1

  - Along North Point Street east of Columbus Avenue

Cluster 2

- Along 2nd Street between Market and Bryant Streets
- Along the north side of Market Street near Noe Street

Cluster 5

- Along Bayshore Boulevard between Cesar Chavez and Industrial Street
- Along the west side of San Bruno Avenue between Paul Avenue and Silver Avenue

The action-by-action, project-by-project, and improvement-by-improvement analysis of the San Francisco Bicycle Plan would have no other transportation-related potentially-significant, significant, or significant and unavoidable impacts. All other impacts that could occur, through implementation of the Bicycle Plan, have been found less than significant, or no impacts have been identified for the given action or improvement project considered.

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B. AIR QUALITY

This section provides an overview of the existing air quality within the City of San Francisco and surrounding region, the associated regulatory setting, and an analysis of potential impacts on air quality that would result from implementation of the San Francisco Bicycle Plan. Bicycling has no associated emissions and the promotion of bicycling can reasonably be expected to reduce emissions citywide by shifting a portion of motor vehicle trips to bicycle trips. While these are reasonably foreseeable benefits of implementing the Proposed Project, this EIR conservatively considers the potential air quality impacts that may be associated with motor vehicle operations. In particular, proposed bikeways that reduce roadway capacity could cause localized motor vehicle congestion that could result in localized air quality impacts. These issues are addressed in the discussion of potential impacts associated with operations, and cumulative effects.

The Initial Study (see Appendix A) concluded that air quality could potentially be affected by the Proposed Project, and deferred to the EIR for additional air quality analysis to be completed, after information was available on the Proposed Project's anticipated impact on vehicle travel. The Proposed Project's potential vehicle-related operational and cumulative air quality impacts are discussed in this Section of the EIR as they relate to established air quality plans and standards. These impacts were found to have a less than significant impact on the physical environment. The Initial Study also concluded that air quality could potentially be affected during construction of the Proposed Project. A mitigation measure was included to reduce project-specific construction-related air quality effects of the Proposed Project, as well as the Proposed Project's potential air quality effects when considered cumulatively with other anticipated future projects in the project area. Construction-related air quality impacts are discussed in the cumulative impact subsection, below. The construction air quality mitigation measure, included in the mitigation measures subsection, would reduce both the Potential Project's individual air quality impacts and the Proposed Project's potential cumulatively considerable air quality impacts to a less than significant level.

SETTING A

AIR QUALITY BACKGROUND

The City and County of San Francisco is within the San Francisco Bay Area Air Basin, so named because the surrounding mountains tend to confine the movement of air and the pollutants it contains. This area includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San

Mateo, Santa Clara, the western half of Solano and the southern half of Sonoma counties. The regional climate within the Bay Area is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. A wide range of emissions sources – such as dense population centers, heavy vehicular traffic, and industry – and meteorology primarily influence the air quality within the Bay Area.

Air pollutant emissions within the Bay Area are generated by stationary, area-wide, and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point source emissions occur at identified locations and are usually associated with manufacturing and industry. Examples of air emission point sources are boilers and combustion equipment that produce electricity or generate heat. Area-wide sources consist of many smaller point sources that are widely distributed. Examples of area-wide sources include residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products such as barbeque lighter fluid and hair spray. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated naturally such as when fine dust particles are pulled off the ground and suspended in the air during high winds.

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health. The national and state ambient air quality standards have been set at levels where concentrations could be generally harmful to human health and welfare, and to protect the most sensitive persons from illness or discomfort with a margin of safety.

The air pollutants for which national and state standards have been promulgated and which are most relevant to air quality planning and regulation in the Bay Area include ozone, carbon monoxide (CO), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), and lead. In addition, toxic air contaminants (TACs) and greenhouse gases (GHGs) are of concern in the Bay Area. All of these pollutants are briefly described below.

Ozone

Ozone is a gas that is formed when reactive organic gases (ROG) and nitrogen oxides (NO_x) – both byproducts of internal combustion engine exhaust – undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the

summer months when direct sunlight, light wind, and warm temperature conditions are conducive to its formation.

Carbon Monoxide (CO)

Carbon Monoxide (CO) is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest in the winter morning when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines – unlike ozone – and motor vehicles operating at slow speeds are the primary source of CO in the Bay Area, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

Respirable Particulate Matter (PM_{10}) and Fine Particulate Matter ($PM_{2.5}$)

Respirable Particulate Matter (PM_{10}) and Fine Particulate Matter ($PM_{2.5}$) consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter. Most particulate matter in urban areas is produced by fuel combustion, motor vehicle travel, and construction activities.

Nitrogen Dioxide (NO_2)

Nitrogen Dioxide (NO_2) is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is an essential ingredient in the formation of ozone. It is emitted as a by-product of fuel combustion.

Sulfur Dioxide (SO_2)

Sulfur Dioxide (SO_2) is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries.

Toxic Air Contaminants (TACs)

Toxic Air Contaminants (TACs) is a general term for a diverse group of air pollutants that can adversely affect human health, but have not had ambient air quality standards established for them. They are not fundamentally different from the pollutants discussed above, but lack ambient air quality standards for a variety of reasons (e.g., insufficient data on toxicity, association with particular workplace exposures rather than general environmental exposure, etc.). The health effects of TACs can result from either acute or chronic exposure; many types of cancer are associated with chronic TAC exposures.

Greenhouse Gases (GHGs)

Greenhouse Gases (GHGs) are gases that trap heat in the atmosphere because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHG's has been implicated as a driving force for global climate change. Definitions of climate change vary between and across regulatory authorities and the scientific community, but in general can be described as the changing of the earth's climate caused by natural fluctuations and anthropogenic activities which alter the composition of the global atmosphere.

Individual projects contribute to the cumulative effects of climate change by emitting GHGs during demolition, construction and operational phases. The principal GHGs are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. (Ozone – not directly emitted, but formed from other gases – in the troposphere, the lowest level of the earth's atmosphere, also contributes to the retention of heat.) While the presence of the primary GHGs in the atmosphere are naturally occurring, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) are largely emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Carbon dioxide is the "reference gas" for climate change, meaning that emissions of GHGs are typically reported in "carbon dioxide-equivalent" measures. Emissions of carbon dioxide are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHGs, with much greater heat-absorption potential than carbon dioxide, include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes.

REGIONAL AIR QUALITY

Climate

The San Francisco Bay Area's regional meteorological conditions are cool and dry in the summers and mild and moderately wet in the winters. A daytime sea breeze provides fresh air to the Bay Area, but also tends to cause temperature inversions by positioning cool surface air underneath warmer upper-air. The inversions limit vertical motion of pollution and cause pollution potential to be the highest in the sheltered valleys throughout the region and in the subregions that are not directly affected by the marine air entering through the Golden Gate.[1]

[1] BAAQMD, BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans, April 1996, Revised December 1999, Appendix D.

Regional Air Quality

The nine-county San Francisco Bay Area Air Basin has a history of recorded violations of federal and state ambient air quality standards for ozone, carbon monoxide, and inhalable particulate matter. Since the early 1970s, the Bay Area has made progress toward controlling these pollutants. The area is now in attainment with all state and federal standards except those for ozone and PM_{10}. The Bay Area is an ozone nonattainment area for state and federal purposes. Although the Bay Area does not meet the state standard for PM_{10}, it does meet the federal standard. The criteria air pollutants for which national and state standards have been promulgated (and that are most relevant to air quality planning and regulation in the Bay Area) are ozone, fine suspended particulate matter, and carbon monoxide.

The emissions inventory for the entire Bay Area and San Francisco County is summarized in Table V.B-1, p. V.B-5. In the Bay Area, motor vehicles generate the majority of ROG, NO_x, and CO; stationary sources generate the most SOx; and area-wide sources generate the most airborne particulates.

TABLE V.B-1
2006 ESTIMATED AVERAGE DAILY EMISSIONS
IN SAN FRANCISCO COUNTY AND THE SAN FRANCISCO BAY AREA

	Emissions in Tons per Day					
Emissions Source	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
San Francisco Bay Area Air Basin	369	492	1,929	55	213	82
San Francisco County	34	52	171	7	17	7

Source: California Air Resources Board, Almanac Emission Projection Data, 2007.

Additionally, there is international scientific consensus that human-caused increases in GHGs have and would continue to contribute to global warming, although there is uncertainty concerning the magnitude and rate of the warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.[2] Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

[2] California Air Resources Board (ARB), 2006a. Climate Change website. Available at: http://www.arb.ca.gov/cc/120106workshop/intropres12106.pdf, accessed December 4, 2007.

The California Energy Commission (CEC) estimated that in 2004 California produced 500 million gross metric tons (about 550 million US tons) of carbon dioxide-equivalent GHG emissions.[3] The CEC found that transportation is the source of 38 percent of the State's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 23 percent and industrial sources at 13 percent.[4] In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of the Bay Area's GHG emissions, accounting for just over half of the Bay Area's 85 million tons of GHG emissions in 2002. Industrial and commercial sources were the second largest contributors of GHG emissions with about one-fourth of total emissions. Domestic sources (e.g., home water heaters, furnaces, etc.) account for about 11 percent of the Bay Area's GHG emissions, followed by power plants at 7 percent. Oil refining currently accounts for approximately 6 percent of the total Bay Area GHG emissions.[5]

Local Air Quality

The Bay Area Air Quality Management District (BAAQMD) operates air quality monitoring stations in San Francisco at 10 Arkansas Street (at the foot of Potrero Hill) and at 939 Ellis Street (near the Civic Center). Both locations would be representative of conditions in the City; however, the Ellis Street station monitors only carbon monoxide. Peak carbon monoxide concentrations observed at the Ellis Street station tend to be higher than those observed at Arkansas Street. Table V.B-2, p. V.B-7 presents a three-year summary (2005-2007) of ozone, carbon monoxide, and particulate matter data at the Arkansas Street monitoring station. Data compiled from this monitoring station for the past three years (2005 through 2007) are used by the California Air Resources Board (CARB) to estimate annual air emission averages and number of days a region is above State or federal standards. During the period of 2005 through 2007 for this station, both the State 1 hour ozone standard and the federal 8 hour standards were not exceeded at this station. During the period of 2005 through 2007 at the Arkansas Street station, the measured State 24 hour PM_{10} standard was exceeded five times while the federal 24 hour standard was not exceeded. The federal 24 hour standard for $PM_{2.5}$ standard was not exceeded between 2005 and 2007.

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[3] Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

[4] California Energy Commission, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 – *Final Staff Report*, publication # CEC-600-2006-013-SF, December 22, 2006; and January 23, 2007 update to that report. Available at: http://www.arb.ca.gov/cc/ccei/emsinv/emsinv.htm.

[5] BAAQMD, *Source Inventory of Bay Area Greenhouse Gas Emissions: Base Year 2002*, November 2006. Available on the internet at: http://www.baaqmd.gov/pln/ghg_emission_inventory.pdf.

TABLE V.B-2
SUMMARY OF LOCAL AMBIENT AIR QUALITY IN THE PROJECT VICINITY

Air Pollutants[a]	Year 2005	2006	2007
Ozone			
Maximum 1-hour concentration measured[b]	0.06 ppm	0.05 ppm	0.06 ppm
Days exceeding State 0.09 ppm 1-hour standard	0	0	0
Maximum 8-hour concentration measured[c]	0.05 ppm	0.05 ppm	0.05 ppm
Days exceeding national 0.08 ppm 8-hour standard	0	0	0
Respirable Particulate Matter (PM_{10})			
Maximum 24-hour concentration measured[d]	46.4 $\mu g/m^3$	61.4 $\mu g/m^3$	69.8 $\mu g/m^3$
Days exceeding national 150 $\mu g/m^3$ 24-hour standard	0	0	0
Days exceeding State 50 $\mu g/m^3$ 24-hour standard	0	3	2
Fine Particulate Matter ($PM_{2.5}$)			
Maximum 24-hour concentration measured	43.6 $\mu g/m^3$	54.3 $\mu g/m^3$	45.2 $\mu g/m^3$
No. of days exceeding national 35 $\mu g/m^3$ 24-hour standard[e]	0	0	0
Carbon Monoxide (CO)			
Maximum 8-hour concentration measured	2.1 ppm	2.1 ppm	1.6 ppm
Number of days exceeding national and State 9.0 ppm 8-hour standard	0	0	0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration measured	0.06 ppm	0.07 ppm	0.06 ppm
Days exceeding State 0.25 ppm 1-hour standard	0	0	0

Source: California Air Resources Board, Ambient Air Quality Data Summaries, Air Pollution Summary, 2005 through 2007.

Notes:

a. Data is taken from the San Francisco Arkansas Street monitoring station.

b. ppm = parts by volume per million of air.

c. The California 8-hour ozone standard was implemented on May 17, 2005.

d. $\mu g/m^3$ = micrograms per cubic meter.

e. On December 17, 2006, the US EPA implemented a more stringent national 24-hour $PM_{2.5}$ standard – revising it from 65 $\mu g/m^3$ to 35 $\mu g/m^3$. $PM_{2.5}$ exceedance days for 2005 to 2007 reflect the new 35 $\mu g/m^3$ standard.

The regional and local air quality data show that the region has made considerable progress toward meeting the state and federal standards. At this time, the region does not meet ozone and PM_{10} standards, and violations of the state and federal standards for ozone and PM_{10} continue to persist.

Pollutants tend to be carried away from San Francisco into the more sheltered areas of the region and cause violations of the standards there, resulting in non-attainment of pollutants,

including ozone. Therefore, regional benefits would occur with efforts to control San Francisco's emissions.

REGULATORY SETTING

Air quality within the Bay Area is addressed through the efforts of various federal, State, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality within the Bay Area are discussed below.

FEDERAL REGULATIONS

National Ambient Air Quality Standards

The US Environmental Protection Agency (EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

STATE REGULATIONS

California Ambient Air Quality Standards

The CARB, a part of the California EPA, is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, CARB conducts research, sets California Ambient Air Quality Standards, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. CARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

TAC Emission Controls

Motor vehicles have been identified as the major source of TACs in urban areas, particularly diesel-powered vehicles, which include most buses and heavy-duty trucks. In 1998, the CARB identified particulate matter from diesel-powered engines (DPM) as a TAC[6]. The CARB estimates that DPM is responsible for about 70 percent of the State's health risk due to TAC exposure. The CARB adopted the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles* (September 2000). The Plan's goals are a 75 percent reduction in DPM by 2010 and an 85 percent reduction by 2020 from the 2000 baseline.

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, the Governor issued Executive Order S-3-05, which sets forth a series of target dates by which Statewide emissions of GHG would be progressively reduced. These target dates include reduction of GHG emissions to 2000 levels by 2010, reduction of GHG emissions to 1990 levels by 2020, and reduction of GHG emissions to 80 percent below 1990 levels by 2050.

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires the California Air Resources Board (CARB) to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions).

AB 32 establishes a timetable for the CARB to adopt emission limits, rules, and regulations designed to achieve the intent of the Act. CARB staff is preparing a scoping plan to meet the 2020 greenhouse gas reduction limits outlined in AB 32. In order to meet these goals, California must reduce its greenhouse gases by 30 percent below projected 2020 business as usual emissions levels, or about 10 percent from today's levels (2008). In June 2008, CARB released its Draft Scoping Plan, which estimates a reduction of 169 million metric tons of CO_2-eq ($MMTCO_2$-eq). Approximately one-third of the emissions reductions strategies fall within the transportation sector and include the following: California Light-Duty Vehicle GHG standards, the Low Carbon Fuel Standard, Heavy-Duty Vehicle GHG emission reductions and energy efficiency, and medium and heavy-duty vehicle hybridization, high speed rail, and efficiency improvements in goods movement. These measures are expected to reduce GHG emissions by 60.2 $MMTCO_2$-eq. Emissions from the electricity sector are expected to reduce another 49.7

[6] Note that DPM is a particular form of PM_{10} produced in diesel engines, and that the major fraction of this PM_{10} would be the smaller diameter $PM_{2.5}$

MMTCO$_2$-eq. Reductions from the electricity sector include building and appliance energy efficiency and conservation, increased combined heat and power, solar water heating (AB 1470), the renewable energy portfolio standard (33 percent renewable energy by 2020), and the existing million solar roofs program. Other reductions are expected from industrial sources, agriculture, forestry, recycling and waste, water, and emissions reductions from cap-and-trade programs. Local government actions and regional GHG targets are also expected to yield a reduction of 2 MMTCO$_2$-eq.[7] Measures that could become effective during implementation pertain to construction-related equipment and building and appliance energy efficiency. Some proposed measures would require new legislation to implement, some would require subsidies, some have already been developed, and some would require additional effort to evaluate and quantify. Additionally, some emissions reductions strategies may require their own environmental review under CEQA or the National Environmental Policy Act (NEPA). Applicable measures that are ultimately adopted would become effective during implementation of proposed project and the proposed project could be subject to these requirements, depending on the proposed project's timeline.

LOCAL REGULATIONS

Bay Area Air Quality Management District Clean Air Plans and Guidelines

The BAAQMD is the primary agency responsible for comprehensive air pollution control in the San Francisco Bay Area Air Basin, including Santa Clara County. To that end, the BAAQMD, a regional agency, works directly with the Association of Bay Area Governments, the Metropolitan Transportation Commission, and local governments and cooperates actively with all federal and State government agencies. The BAAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary.

The BAAQMD is directly responsible for reducing emissions from stationary (area and point) sources and for assuring that State controls on mobile sources are effectively implemented. It has responded to this requirement by preparing a sequence of ozone plans to demonstrate compliance with the federal Clean Air Act and the California Clean Air Act. These plans accommodate future growth while assuring that the pollutant levels in the Bay Area will be reduced to meet federal and State ambient air quality standards (AAQS), with minimal adverse fiscal impact on the local economy. The most recent federal attainment plan, the *2001 Ozone Attainment Plan* demonstrates attainment of the federal ozone standard in the Bay Area by 2006.

[7] Ibid.

The most recent State attainment plan, the *2005 Bay Area Ozone Strategy,* demonstrates how the Bay Area would comply with the State one-hour air quality standard for ozone as expeditiously as practicable. These planning efforts have substantially decreased the population's exposure to unhealthful levels of pollutants, even while substantial population growth has occurred within the Bay Area.

In 2003, the California Legislature enacted Senate Bill 656 (SB 656) to reduce public exposure to PM_{10} and $PM_{2.5}$. SB 656 requires CARB, in consultation with local air districts, to develop and adopt, by January 1, 2005, a list of the most readily available, feasible, and cost-effective control measures that could be used by CARB and the air districts to reduce PM_{10} and $PM_{2.5}$. In November 2005, the BAAQMD adopted a *Particulate Matter Implementation Strategy* focusing on those measures most applicable and cost effective for the Bay Area.

Although the BAAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate the air quality issues associated with plans and new development projects within the Bay Area. Instead, the BAAQMD has used its expertise and prepared the *BAAQMD CEQA Guidelines* (dated 1999) to indirectly address these issues in accordance with the projections and programs of the Ozone Attainment Plan and Clean Air Plan. The purpose of the *BAAQMD CEQA Guidelines* is to assist Lead Agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects and plans proposed in the Bay Area. Specifically, the *BAAQMD CEQA Guidelines* explain the procedures that the BAAQMD recommends be followed during environmental review processes required by CEQA. The *BAAQMD CEQA Guidelines* provide direction on how to evaluate potential air quality impacts, how to determine whether these impacts are significant, and how to mitigate these impacts. The BAAQMD intends that by providing this guidance, the air quality impacts of plans and development proposals would be analyzed accurately and consistently throughout the Bay Area, and adverse impacts would be minimized.

City of San Francisco

San Francisco General Plan

The *San Francisco General Plan (General Plan)* includes the 1997 Air Quality Element.[8] The objectives specified by the City include the following:

[8] City and County of San Francisco, Planning Department, Air Quality - An Element of the General Plan of the City and County of San Francisco, July 1997, updated in 2000.

Objective 1: Adhere to State and federal air quality standards and regional programs.

Objective 2: Reduce mobile sources of air pollution through implementation of the Transportation Element of the *General Plan*.

Objective 3: Decrease the air quality impacts of development by coordination of land use and transportation decisions.

Objective 5: Minimize particulate matter emissions from road and construction sites.

Objective 6: Link the positive effects of energy conservation and waste management to emission reductions.

Transit First Policy

In 1973 San Francisco instituted the Transit First Policy which added Section 16.102 to the City Charter with the goal of reducing the City's reliance on freeways and meeting transportation needs by emphasizing mass transportation. The Transit First Policy gives priority to public transit investments; adopts street capacity and parking policies to discourage increased automobile traffic; and encourages the use of transit, bicycling and walking rather than use of single-occupant vehicles.

San Francisco Sustainability Plan

In July 1997 the Board of Supervisors approved the Sustainability Plan for the City of San Francisco establishing sustainable development as a fundamental goal of municipal public policy.

The Electricity Resource Plan (Revised December 2002)

San Francisco adopted the Electricity Resource Plan to help address growing environmental health concerns in San Francisco's southeast community, home of two power plants. The plan presents a framework for assuring a reliable, affordable, and renewable source of energy for the future of San Francisco.

The Climate Action Plan for San Francisco

In February 2002, the San Francisco Board of Supervisors passed the Greenhouse Gas Emissions Reduction Resolution (Number 158-02) committing the City and County of San Francisco to a GHG emissions reduction goal of 20 percent below 1990 levels by the year 2012. In September 2004, the San Francisco Department of the Environment and the Public Utilities Commission published the *Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Gas*

Emissions.[9] The Climate Action Plan provides the context of climate change in San Francisco and examines strategies to meet the 20 percent greenhouse gas reduction target. Although the Board of Supervisors has not formally committed the City to perform the actions addressed in the Plan, and many of the actions require further development and commitment of resources, the Plan serves as a blueprint for GHG emission reductions, and several actions have been implemented or are now in progress.

San Francisco Municipal Transportation Agency's Zero Emissions 2020 Plan

The San Francisco Municipal Transportation Agency's (SFMTA) Zero Emissions 2020 plan focuses on the purchase of cleaner transit buses including hybrid diesel-electric buses. Under this plan hybrid buses would replace the oldest diesel buses, some dating back to 1988. The hybrid buses emit 95 percent less particle matter (PM, or soot) than the buses they replace, the produce 40 percent less oxides of nitrogen (NOx), and they reduce greenhouse gases by 30 percent.

Construction and Demolition Debris Recovery Ordinance

In 2006 the City of San Francisco adopted Ordinance No. 27-06, requiring all construction and demolition debris to be transported to a registered facility that can divert a minimum of 65 percent of the material from landfills. This ordinance applies to all construction, demolition and remodeling projects within the City.

Greenhouse Gas Reduction Ordinance

In May 2008, the City of San Francisco adopted an ordinance amending the San Francisco Environment Code to establish City greenhouse gas emission targets and departmental action plans, to authorize the Department of the Environment to coordinate efforts to meet these targets, and to make environmental findings. The ordinance establishes the following greenhouse gas emission reduction limits for San Francisco and the target dates to achieve them:

- Determine 1990 City greenhouse gas emissions by 2008, the baseline level with reference to which target reductions are set;
- Reduce greenhouse gas emissions by 25 percent below 1990 levels by 2017;

[9] San Francisco Department of the Environment and San Francisco Public Utilities Commission, *Climate Action Plan for San Francisco*, Local Actions to Reduce Greenhouse Emissions, September 2004.

- Reduce greenhouse gas emissions by 40 percent below 1990 levels by 2025; and
- Reduce greenhouse gas emissions by 80 percent below 1990 levels by 2050.

The ordinance also specifies requirements for City departments to prepare departmental Climate Action Plans that assess, and report to the Department of the Environment, GHG emissions associated with their department's activities and activities regulated by them, and prepare recommendations to reduce emissions. As part of this, the San Francisco Planning Department (Planning Department) is required to: (1) update and amend the City's applicable *General Plan* elements to include the emissions reduction limits set forth in this ordinance and policies to achieve those targets; (2) consider a project's impact on the City's GHG reduction limits specified in this ordinance as part of its review under CEQA; and (3) work with other City departments to enhance the "transit first" policy to encourage a shift to sustainable modes of transportation thereby reducing emissions and helping to achieve the targets set forth by this ordinance.

IMPACTS

SIGNIFICANCE CRITERIA

The *BAAQMD CEQA Guidelines* identifies significance criteria to assist lead agencies in evaluating potential air quality impacts of projects. The City of San Francisco utilizes these criteria when evaluating proposed development projects and plans. As such, the Project may result in significant air quality impacts if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

The Governor's Office of Planning and Research (OPR) encourages public agencies to adopt thresholds of significance, but notes that public agencies are not required to do so. Until a

statewide threshold has been adopted, the Planning Department analyzes a proposed project's contribution to climate change against the following significance criteria:

1. Does the project conflict with the state goal of reducing GHG emissions in California to 1990 levels by 2020, as set forth by the timetable established in AB 32 (California Global Warming Solutions Act of 2006), such that the project's GHG emissions would result in a substantial contribution to global climate change.
2. Does the proposed project conflict with San Francisco's Climate Action Plan such that it would impede implementation of the local greenhouse gas reduction goals established by San Francisco's Greenhouse Gas Reduction Ordinance.

METHODOLOGY

Project-specific CO concentrations and mobile source air toxics (MSAT) emissions were estimated near selected intersections in the San Francisco Bicycle Plan Area.

The following intersections were selected from the traffic analysis Cluster areas for MSAT modeling:

- Cluster #1 –Van Ness Avenue at Broadway
- Cluster #2 – 4th Street at Harrison Street
- Cluster #3 – Masonic Avenue at Fell Street
- Cluster #4 – Illinois Street at Mariposa Street
- Cluster #5 – Mission Street at Cesar Chavez Street
- Cluster #6 – Woodside Avenue/O'Shaughnessy Boulevard at Portola Drive
- Cluster #7 – 7th Avenue at Kirkham Street
- Cluster #8 – None (no intersections from this Cluster were modeled in the project transportation study)

This selection was intended to provide an indication of project effects on MSAT emissions from roadways in each of the Cluster areas (with the exception of Cluster #8, where no traffic data is available). The intersections were selected because MSAT emission rates are known to be highest where traffic flow speeds are relatively low (as they are near congested intersections), because existing land uses in their vicinities are pollutant-sensitive (i.e., adjacent uses include residences, schools, hospitals, churches, etc., rather than mostly commercial or industrial), and because physical modifications to roads/intersections under the Plan could worsen congestion

and increase MSAT local emissions. The chosen intersections were selected specifically to represent worst-case air quality conditions for their Cluster areas, so that conclusions derived from model results at these intersections would reliably forecast the maximum adverse air quality impacts in the appropriate Cluster area.

CO levels were estimated using the CALINE4 dispersion model. An MSAT spreadsheet methodology[10], developed by UC Davis under Caltrans contract, was used with San Francisco-specific MSAT emission rates generated by the California Air Resources Board's EMFAC2007 on-road emissions model, and with intersection-specific traffic activity data developed by the project transportation consultant. The MSAT analysis was focused on the six MSAT pollutants identified by the EPA as being the highest priority for motor vehicle sources (i.e., diesel particulate matter (DPM), acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene).

Many of the on-street bikeway improvements would only require additional signage and pavements marking and would not affect motor vehicle operations. These improvements would not result in significant adverse air quality impacts. Some of the proposed bikeway improvements would reduce the number of vehicle travel lanes or reduce or reconfigure turn lanes. The removal and reconfiguration of such lanes could result in localized traffic congestion that could result in localized, elevated levels of CO. A localized increase in TAC emissions could also result from modifications to roadway travel lanes and configurations. These potential impacts are discussed below.

IMPACTS FROM PLAN-INDUCED TRAFFIC FLOW MODIFICATIONS

Carbon Monoxide Emissions

Motor vehicles generate CO, which is not an ozone precursor, but is a pollutant responsible for adverse effects in areas close to where it is emitted. CO levels are highest at intersections where there is congestion and traffic speed is slow. The Proposed Project would make modifications to roadways and intersections to accommodate bicycle facilities. To the extent that the Proposed Project reduces the levels-of-service at busy intersections, those intersections could experience higher concentrations of CO with the Proposed Project than they would without it.

The CALINE4 dispersion model is the preferred method of estimating CO concentrations at sensitive receptors near congested roadways and intersections. CALINE4 uses roadway-specific peak-hour traffic volumes to calculate ambient CO air concentrations. For this analysis,

[10] Bai, Dr. Song, et. al. Estimating Mobile Source Air Toxics Emissions: A Step-by-Step Analysis Methodology, University of California Davis Campus, December 28, 2006.

CO concentrations were calculated based on a simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District (see Appendix C for the CALINE4 model output). This simplified procedure was used to model potential CO hotspots near benchmark intersections selected in each Cluster area. CO background levels characteristic of the project site's urban location were estimated as recommended in the BAAQMD's CEQA Guidelines. The modeled local and monitored background values were added to obtain the worst-case CO levels at the intersections, as shown in Table V.B-3, p. V.B-17. No violations of CO ambient air quality standards are predicted.

Toxic Air Contaminants Emissions

The methodology for estimating project TAC emissions is focused on the six MSAT pollutants identified by the EPA as being the highest priority (US Environmental Protection Agency, 2001). The six pollutants are: diesel particulate matter (DPM), acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene. EMFAC 2007 provided emission factor information for DPM. Each of the remaining five MSATs, however, is a constituent of motor vehicle organic gas (TOG) emissions, and EMFAC 2007 provided emission factors for TOG, which together with CARB "speciation factors" were used to calculate the MSATs as a function of TOG emissions. MSAT emissions were calculated for seven street segments, each associated with a selected intersection in each Cluster area, as shown in Table V.B-4, p. V.B-18 (see Appendix C for the model output).

TABLE V.B-3
MOTOR VEHICLE EIGHT-HOUR AVERAGE CARBON MONOXIDE CONCENTRATIONS (PPM)

Intersection	Existing (2008)	Cumulative (2025)	Cumulative + Bicycle Plan (2025)
Broadway/Van Ness	4.8	3.8	3.8
4th/Harrison	4.3	3.7	3.8
Masonic/Fell	4.7	3.8	3.9
Illinois/Mariposa	3.6	3.6	3.6
Mission/Chavez	4.7	3.9	3.9
Portola/O'Shaughnessy	4.9	3.9	3.9
7th/Kirkham	4.2	3.7	3.7

Source: PBS&J, 2008.

Notes:

CO concentrations were calculated near curbside using a simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District, motor vehicle CO emissions rates calculated for San Francisco County with the CARB's EMFAC2007 model, and the worst-case eight-hour CO background level recommended in the BAAQMD's CEQA Guidelines.

The eight-hour CO standard is 9.0 ppm. No standard violations are predicted at any intersection under any scenario

TABLE V.B-4
MOTOR VEHICLE TRAFFIC TAC EMISSIONS ON SELECTED STREETS IN THE PLAN AREA

Street Segment	Scenario	Diesel PM (grams/day)	Benzene (grams/day)	1,3-Butadiene (grams/day)	Acetaldehyde (grams/day)	Acrolein (grams/day)	Formaldehyde (grams/day)
Broadway East of Van Ness Avenue	Existing	11.4	29.1	5.3	5.7	1.2	19.8
	Cumulative	6.9	8.6	1.3	1.8	0.3	5.9
	Cumulative+Project	6.9	8.6	1.3	1.8	0.3	5.9
4th Street North of Harrison Street	Existing	9.8	25.1	4.6	4.9	1.0	17.0
	Cumulative	6.4	8.0	1.2	1.7	0.3	5.5
	Cumulative+Project	**7.9**	**11.9**	**1.7**	**2.2**	**0.4**	**7.4**
Masonic Avenue North of Fell Street	Existing	14.7	37.6	6.9	7.4	1.6	25.5
	Cumulative	8.9	11.2	1.7	2.3	0.4	7.7
	Cumulative+Project	**11.0**	**16.7**	**2.3**	**3.1**	**0.5**	**10.5**
Illinois Street South of Mariposa Street	Existing	1.6	4.0	0.7	0.8	0.2	2.7
	Cumulative	2.8	3.5	0.5	0.7	0.1	2.4
	Cumulative+Project	2.8	3.5	0.5	0.7	0.1	2.4
Cesar Chavez Street East of Mission Street	Existing	15.1	38.6	7.1	7.6	1.6	26.2
	Cumulative	11.3	14.1	2.1	3.0	0.5	9.8
	Cumulative+Project	**14.0**	**21.2**	**3.0**	**4.0**	**0.7**	**13.2**
Portola Avenue West of O'Shaugnessy Street	Existing	17.0	43.3	7.9	8.5	1.8	29.4
	Cumulative	10.1	12.6	1.9	2.6	0.4	8.7
	Cumulative+Project	10.1	12.6	1.9	2.6	0.4	8.7
7th Street South of Kirkham Street	Existing	9.5	24.1	4.4	4.7	1.0	16.4
	Cumulative	7.4	9.2	1.4	1.9	0.3	6.4
	Cumulative+Project	7.4	9.2	1.4	1.9	0.3	6.4

Source: Estimating Mobile Source Air Toxics Emissions: A Step-by-Step Project Analysis Methodology; Caltrans, December 28 2006.

Note: Values in **bold** represent an increase from cumulative conditions.

In all cases, MSAT emissions were found to be considerably lower in the future (Year 2025) because of the increasingly stringent control measures that the CARB is expected to impose on the motor vehicle fleet (and other TAC sources) over the next 15 years. However, future MSAT emissions with the Proposed Project are expected to be higher in certain cases than they would be without the Proposed Project. Near the 4th Street/Harrison Street, Masonic Avenue/Fell Street, and Cesar Chavez Street/Mission Street intersections, traffic volumes are expected to increase by between 10 percent and 30 percent, with added traffic congestion caused by the bicycle lanes and/or other bicycle-related improvements related to Plan implementation. But even so, the TAC emissions from the street segments leading to these intersections would still decrease from their existing levels, just not as much as they would have had the additional Plan-induced congestion not occurred. Also, the increased MSAT emissions would only occur on the portions of the streets that are affected by the intersection's congested operation; at other portions far from the intersection, MSAT emissions would be much lower. Thus, bicyclists using the bicycle routes installed under the Plan would be exposed to these higher MSAT exposures only over short segments of their routes that pass through the few intersections with increased traffic congestion resulting from Plan implementation.

GHG Emissions

Project operation would require electricity used to operate signs and signals with consequent indirect GHG emissions attributed to the plants providing that power. Some additional GHG emissions could be attributed to increased local traffic congestion resulting from Plan implementation. While some GHG benefits from the project (i.e., by making bicycle travel easier and safer, motor vehicle trips and their GHG emissions could be reduces) are expected, operational GHG emissions are expected to be minimal and quantification of these emissions is extremely difficult.

The majority of emissions would occur during construction of the Bicycle Plan. Some streets and intersections would require excavation and repaving to install the improved bicycle facilities called for under the Plan. But all would require some activities to re-stripe the roadways, install improved signage, etc. The URBEMIS model was used to estimate the CO_2 emissions associated with the equipment used for bicycle facility improvements under the Plan based on construction data provided by the San Francisco Municipal Transportation Agency. $CO_{2\text{-equivalent}}$ emissions were estimated from the URBEMIS model outputs to account for GHGs from N_2O and CH_4. GHG emissions associated with the production of concrete required for individual projects were also

calculated as part of the GHG analysis for the Bicycle Plan. Annual emissions of GHG are expected to be about 1,536 tons of $CO_{2\text{-equivalent}}$/year over the five-year construction period.[11] Production of the cement to be used for this project would also result in approximately 4,449 tons of CO_2-equivalent GHG emissions.[12]

Construction Dust Abatement

Project-related demolition, excavation, grading and other construction activities may cause wind-blown dust that could contribute particulate matter into the local atmosphere. Although there are federal standards for air pollutants and implementation of state and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country. California has found that particulate matter exposure can cause health effects at lower levels than national standards. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure. According to the California Air Resources Board, reducing ambient particulate matter from 1998-2000 levels to natural background concentrations in San Francisco would prevent over 200 premature deaths.

Dust can be an irritant causing watering eyes or irritation to the lungs, nose and throat. Excavation, grading and other construction activities can cause wind-blown dust to add to particulate matter in the local atmosphere. Depending on exposure, adverse health effects can occur due to this particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil.

In response, the San Francisco Board of Supervisors approved a series of amendments to the San Francisco Building and Health Codes generally referred hereto as the Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) with the intent of reducing the quantity of dust generated during site preparation, demolition and construction work in order to protect the health of the general public and of onsite workers, minimize public nuisance complaints, and to avoid orders to stop work by the Department of Building Inspection (DBI). The Initial Study for the Bicycle Plan Update was published on March 15, 2008 and included a Construction Air Quality mitigation measure (Mitigation Measure 2). However, this mitigation measure is no longer

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11 Emissions were estimated from the URBEMIS model outputs to account for GHGs from N2O and CH4. GHG emissions associated with the production of concrete required for individual projects were calculated as part of the GHG analysis for the Bicycle Plan.

12 Memorandum from PBS&J to Environmental Review Officer, MEA, November 12, 2008. This memorandum is available for review, by appointment, at the San Francisco Planning Department, at 1650 Mission Street, 4th Floor, San Francisco, California, 94103, under Case File No. 2007-0347E.

necessary as compliance with the Construction Dust Control Ordinance (Ordinance 176-08, July 2008) would reduce any potential construction air quality impacts to less-than-significant.

The Ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a permit from DBI. The Director of DBI may waive this requirement for activities on sites less than one half-acre that are unlikely to result in any visible wind-blown dust.

SFMTA and the contractor(s) responsible for construction activities at the project sites shall use the following practices to control construction dust on the site or other practices that result in equivalent dust control that are acceptable to the Director. Dust suppression activities may include watering all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the San Francisco Public Works Code. If not required, reclaimed water should be used whenever possible. Contractors shall provide as much water as necessary to control dust (without creating run-off in any area of land clearing, and/or earth movement. During excavation and dirt-moving activities, contractors shall wet sweep or vacuum the streets, sidewalks, paths and intersections where work is in progress at the end of the workday. Inactive stockpiles (where no disturbance occurs for more than seven days) greater than 10 cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base, and soil shall be covered with a 10 millimeter (0.01 inch) polyethylene plastic (or equivalent) tarp, braced down, or use other equivalent soil stabilization techniques.

For projects over one half-acre, the Ordinance requires that the project sponsor submit a Dust Control Plan for approval by the San Francisco Health Department. DBI will not issue a building permit without written notification form the Director of Public Health that the applicant has a site-specific Dust Control Plan, unless the Director waives the requirement. Interior-only tenant improvement projects that are over one-half acre in size that will not produce exterior visible dust are exempt from the site-specific Dust Control Plan requirement.

Site-specific Dust Control Plans shall require SFMTA to: submit of a map to the Director of Health showing all sensitive receptors within 1000 feet of the site; wet down areas of soil at least three times per day; provide an analysis of wind direction and install upwind and downwind particulate dust monitors; record particulate monitoring results; hire an independent, third-party to conduct

inspections and keep a record of those inspections; establish shut-down conditions based on wind, soil migration, etc.; establish a hotline for surrounding community members who may be potentially affected by project-related dust; limit the area subject to construction activities at any one time; install dust curtains and windbreaks on the property lines, as necessary; limit the amount of soil in hauling trucks to the size of the truck bed and securing with a tarpaulin; enforce a 15 mph speed limit for vehicles entering and exiting construction areas; sweep affected streets with water sweepers at the end of the day; install and utilize wheel washers to clean truck tires; terminate construction activities when winds exceed 25 miles per hour; apply soil stabilizers to inactive areas; and to sweep off adjacent streets to reduce particulate emissions. The project sponsor would be required to designate an individual to monitor compliance with dust control requirements.

These regulations and procedures set forth by the San Francisco Building Code would ensure that potential dust-related air quality impacts would be reduced to a level of insignificance.

CONCLUSION

Bicycle travel is an environmentally friendly means of transportation because there are no tailpipe emissions, no evaporative emissions, no emissions from gasoline pumping or oil refining, and zero carbon dioxide or other greenhouse gases that contribute to global warming. Implementation of the Proposed Project would promote bicycling as a viable alternative to the private automobiles. In particular, the use of bicycles for short trips reduces the number of short trips made by automobile. Short trips are high-polluting trips because of the car's cold start and the associated inefficient operation of the engine's catalytic converter immediately following a cold start. Eliminating motor vehicle trips has a beneficial impact on air quality.

Implementation of the Proposed Project would not result in any new traffic volumes being added to the roadway network; therefore, there would be no change in the intersection volume under project conditions. Hence, the intersection volumes stay constant between Existing and Existing plus Project Conditions. Similarly, there is no change in intersection volumes between 2025 Cumulative and 2025 Cumulative plus Project Conditions. However, the reduction of travel lanes at major intersections would increase traffic congestion at some intersections. As presented above, under Cumulative Plus Project conditions, CO levels would not exceed the ambient air quality standard and TAC emissions would be less than existing at all intersections. Therefore, implementation and operation of the Proposed Project would not result in significant adverse air quality impacts.

The Proposed Project would emit GHG during its construction phases and could contribute to a cumulative impact on climate change as described below.

CUMULATIVE IMPACTS

The BAAQMD neither recommends quantified analyses of cumulative construction emissions nor provides thresholds of significance that could be used to assess cumulative construction impacts. As discussed previously, the construction industry, in general, is an existing source of emissions within the Bay Area. Construction equipment operates at one site on a short-term basis and, when finished, moves on to a new construction site. Likewise, construction employees would continue to drive from site to site over time. Because (1) construction activities would be temporary, (2) the contribution to the cumulative context is so small as to be virtually immeasurable, and (3) all of the appropriate and feasible construction-related measures recommended by the BAAQMD would be implemented under San Francisco Construction Dust Control Ordinance 176-08, effective July 2008. Therefore, the contribution of construction emissions associated with the Proposed Project would not be cumulatively considerable, the contribution of construction emissions associated with the Project would not be cumulatively considerable.

Bicycling has no associated emissions and the Proposed Project can reasonably be expected to reduce emissions citywide by shifting a portion of motor vehicle trips to bicycle trips. The Proposed Project would result in a net reduction in emissions and thus has no impact and would not contribute to a cumulative impact. As discussed above, implementation of the Proposed Project does not result in any new auto mobile trips being added to the roadway network. Under cumulative conditions, with the Proposed Project included, CO and TAC emissions are predicted to decrease.

Implementation of the Proposed Project would likely result in a net decrease in GHG emissions because the Proposed Project is expected to reduce emissions citywide by shifting a portion of motor vehicle trips to bicycle trips. However, the mode shift from cars to bicycles is not quantifiable, and therefore, the GHG analysis does not account for this potential decrease in GHG emissions.

The Proposed Project would emit GHGs during construction of individual projects and from the amount of concrete required for specific projects. However, these construction emissions could be offset should the Bicycle Plan and its individual projects shift some modes of transportation from vehicles to bicycles. The Proposed Project would not impede actions to meet either the state GHG reduction goals or San Francisco's GHG reduction goals. In fact, the Proposed Project would be compatible with state and local GHG reduction goals by promoting zero emissions alternatives to vehicle travel.

Additionally, San Francisco has implemented programs to reduce greenhouse gas emissions specific to new construction and renovations of residential and commercial developments and San Francisco's sustainable policies have resulted in the measured success of reduced greenhouse gas emissions levels. Further, current and probable future state and local greenhouse gas reduction measures would continue to reduce GHGs on a statewide level. The Proposed Project would further the goals of reducing GHG by shifting transportation modes away from motor vehicles and, therefore, the Proposed Project would not be significant individually or contribute considerably to the cumulative effects of global climate change.

C. NOISE

The Initial Study (see Appendix A) concluded that noise generated from construction and operational activities of the Proposed Project would not exceed established noise standards. It also concluded that the Proposed Project would have less-than-significant impacts with regards to temporary noise and vibration resulting from construction of the Proposed Project. The increase in noise during construction of the Proposed Project, and its various elements, would not be considered a significant impact under the City's Noise Ordinance,[1] because the construction noise would be temporary, intermittent, and restricted in occurrence and level. The project site is not located within an airport land use plan area, within two miles of a public airport, or in the vicinity of a private airstrip and would not result in any airport-related noise impacts. The Proposed Project consists of transportation-related improvements which are not affected by existing noise levels. Therefore, there would be no significant adverse impacts on the Proposed Project related to existing noise levels. Because these topics have been discussed, and their potential impacts found insignificant or less-than-significant in the Initial Study, these topics are not discussed in this section.

The Initial Study concluded that any increase in ambient noise levels, associated with the Proposed Project, would result from an increase in operational noise directly related to changes in traffic volumes. It was estimated that an approximate doubling of traffic volumes in the area would be necessary to produce an increase in ambient noise levels noticeable to most people. Because traffic volumes and impacts were not studied in the Initial Study, the Initial Study deferred to the EIR traffic study to form the basis for analysis and conclusions on potential changes in traffic-related ambient noise levels. Traffic-related noise impacts are, therefore, discussed in this section.

The Initial Study also deferred the analysis of cumulative noise impacts to this EIR. Without the data and a determination of ambient noise impacts, the Initial Study could not present a full analysis of all cumulative noise impacts. The analysis of these cumulative noise impacts are all discussed in this section.

SETTING

Sound is created when vibrating objects produce pressure variations that move rapidly outward into the surrounding air. The main characteristics of these air pressure waves are (a) amplitude,

[1] Article 29, *San Francisco Police Code.*

which we experience as a sound's "loudness," and (b) frequency, which we experience as a sound's "pitch." The standard unit of sound amplitude is the decibel (dB); it is a measure of the physical magnitude of the pressure variations relative to the human threshold of perception. The human ear's sensitivity to sound amplitude is frequency-dependent; it is more sensitive to sound with a frequency at or near 1,000 cycles per second than to sound with much lower or higher frequencies.

Most "real world" sounds (e.g., a dog barking, a car passing) are complex mixtures of many different frequency components. When the average amplitude of such sounds is measured with a sound level meter, it is common for the instrument to apply different adjustment factors to each of the measured sound's frequency components. These factors account for the differences in perceived loudness of each of the sound's frequency components relative to those that the human ear is most sensitive to (i.e., those at or near 1000 cycles per second). This adjustment is called "A-weighting." The unit of A-weighted sound amplitude is also the decibel; however, in reporting measurements to which A-weighting has been applied, an "A" is appended to dB (i.e., dBA) to make this clear.[2]

Noise is the term generally given to the "unwanted" aspects of intrusive sound. Many factors influence how a sound is perceived and whether it is considered annoying to a listener. These factors include not only the physical characteristics of a sound (e.g., amplitude, frequency, duration), but also non-acoustic factors (e.g., the acuity of a listener's hearing ability, the activity of the listener during exposure) that can influence the degree of "unwantedness" for a listener, or receptor. Excessive noise can negatively affect the physiological or psychological well-being of individuals or communities.

All quantitative descriptors, used to measure environmental noise exposure, recognize the strong correlation between the high acoustical energy content of a sound (i.e., its loudness and duration) and the disruptive effect it is likely to have as noise. Because environmental noise fluctuates over time, most such descriptors average the sound level over the time of exposure,

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[2] A decibel (dB) is the unit of measurement used to express the intensity of loudness of sound. A decibel is one-tenth of a unit called a bel. Sound is composed of various frequencies. The human ear does not hear all sound frequencies. Normal hearing is within the range of 20 to 20,000 vibrations per second. As a result, an adjustment of weighting of sound frequencies is made to approximate the way that the average person hears sounds. This weighting system assigns a weight that is related to how sensitive the human ear is to each sound frequency. Frequencies that are less sensitive to the human ear are weighted less than those for which the ear is more sensitive. The adjusted sounds are called A-weighted levels (dBA).

and some add "penalties" for sounds produced at times of day when intrusive sounds would be more disruptive to listeners. The most commonly used descriptors are:

- Equivalent Energy Noise Level (L_{eq}) is the constant noise level that would deliver the same acoustic energy to the ear of a listener as the actual time-varying noise would deliver over the same exposure time. No "penalties," or adjustments, are added to any noise levels during the exposure time; thus, there is no change in this noise metric if the noise were to occur during late night hours. The L_{eq} would be the same regardless of the time of day during which the noise occurs.
- Day-Night Average Noise Level (L_{dn}) is a 24-hour average L_{eq} with a 10 dBA "penalty" added to noise levels registered during the hours of 10:00 p.m. to 7:00 a.m. to account for the increased sensitivity that people tend to have to nighttime noise. Because of this penalty, the L_{dn} is always higher than its corresponding 24-hour L_{eq} (e.g., a constant 60 dBA noise over 24 hours would have a 60 dBA L_{eq}, but a 66.4 dBA L_{dn}).
- Community Noise Equivalent Level (CNEL) is an L_{dn} with an additional 5 dBA "penalty" for noise levels registered during the evening hours between 7:00 p.m. and 10:00 p.m. In most cases of environmental noise exposure, L_{dn} and CNEL levels are essentially equivalent.

VIBRATION

Vibrating objects in contact with the ground radiate energy through that medium. If a vibrating object is massive enough and/or close enough to the observer, its vibrations are perceptible. The ground motion caused by vibration is measured in vibration decibels (VdB). The vibration threshold of perception for humans is approximately 65 VdB. Vibrations become distinctly perceptible to many people at 75 VdB, and minor damage can occur in fragile buildings at 100 VdB.

Existing Ambient Noise Levels

The major noise sources affecting the project area are traffic noise. Noise measurements were taken near noise-sensitive residential uses adjacent to seven roadways that would be impacted by the Proposed Project, and were modeled in accord with the Existing L_{dn} descriptor. The noise model calculates average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The noise modeling used for the Proposed Project is discussed in greater detail below under methodology. The existing traffic volumes used for the noise modeling were obtained from Wilbur Smith Associates. Current exposure levels of selected local noise-sensitive land uses, to estimated existing L_{dn} noise levels,

are presented in Table V.C-1 on p. V.C-4. The *San Francisco General Plan's (General Plan)* maximum exterior nose level, considered satisfactory for residential use, is 60 dBA. However, noise levels for all but one of the locations, namely, Illinois Street south of Mariposa Street, are currently above 60 dBA. Therefore, in general, the existing ambient noise in the project area is above the satisfactory threshold for residential uses. These noise levels represent only the traffic-related noise component and do not include noise from other sources.

TABLE V.C-1
TRAFFIC NOISE LEVELS AT SELECTED RESIDENTIAL RECEPTORS

Receptors	Existing	Cumulative	Cumulative with Bicycle Plan	Cumulative Change
Residential on Broadway E of Van Ness	68.5	68.8	68.6	-0.2
Residential on 4th ST N of Harrison	66.9	67.5	67.5	0
Residential on Masonic N of Fell	69.9	70.3	70.1	-0.2
Residential on Illinois S of Mariposa	56.9	61.8	61.7	-0.1
Residential on Cesar Chavez E of Mission	71.4	72.7	72.5	-0.2
Residential on Portola W of O'Shaughnessy	70.1	70.4	70.0	-0.4
Residential on 7th Ave S of Kirkham	68.6	70.1	69.9	-0.2

Source: PBS&J, 2008.

The *General Plan* includes Land Use Compatibility Guidelines that suggest satisfactory noise levels for various land uses, and are based on compatibility guidelines from the California Department of Health, Office of Noise Control. The *General Plan* indicates that the maximum exterior noise level considered satisfactory for residential use is 60 dBA CNEL; 65 dBA CNEL for schools, libraries, churches, hospitals, day care centers, and nursing homes; and 70 dBA for office and commercial uses, and parks.

The *San Francisco Noise Ordinance (Noise Ordinance)* regulates both construction noise and fixed source noise within the City. While unnecessary, excessive, or offensive noise limits are imposed to protect all people in an area, nuisance noise is generally limited by the *Noise Ordinance* to within 5 dBA of ambient noise levels. Article 29 of the *San Francisco Police Code (Police Code)* regulates fixed and mobile noise sources; Sections 2907 and 2908 of the *Police Code* regulate noise from construction equipment to 80 dBA L_{eq} at a distance of 100 feet from such equipment during the hours from 7:00 a.m. to 8:00 p.m. Construction activities during the nighttime period from 8:00 p.m. to 7:00 a.m. may not exceed the ambient level by 5 dBA at the

nearest property line, unless a special permit is granted prior to such work. Section 2909, Fixed Source Levels, regulates mechanical equipment noise.

IMPACTS

Significance Criteria

For the purposes of this EIR, a noise impact would be considered significant if traffic-related noise resulting from operation of the Proposed Project would:

- Expose persons to, or generate, noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies;
- Expose persons to, or generate, excessive ground-borne vibration or ground-borne noise levels;
- Substantially and permanently increase ambient noise levels in the project vicinity above levels existing without the project;
- Substantially and temporarily, or periodically, increase ambient noise levels in the project above levels existing without the project.

METHODOLOGY

The analysis of the existing and future traffic noise levels is based on noise level monitoring, noise prediction computer modeling, and empirical observations of receptor noise exposure characteristics. Existing noise levels were monitored at selected residential uses near seven intersections using a Larson-Davis Model 820 sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation related to traffic congestion.

The following intersections were selected from the project transportation study Cluster areas for traffic noise monitoring and modeling:

Cluster #1 – Van Ness Avenue at Broadway

Cluster #2 – 4th Street at Harrison Street

Cluster #3 – Masonic Avenue at Fell Street

Cluster #4 – Illinois Street at Mariposa Street

Cluster #5 – Mission Street at Cesar Chavez Street

Cluster #6 – Woodside Avenue/O'Shaughnessy Boulevard at Portola Drive

Cluster #7 – 7th Avenue at Kirkham Street

Cluster #8 – None (no intersections from this Cluster were modeled in the project transportation study)

This selection was intended to provide an indication of project noise effects related to congestion in each of the Cluster areas (with the exception of Cluster #8, where no significant impacts were identified). The intersections were selected because existing traffic noise levels in their vicinity are relatively high, existing land uses there are noise-sensitive (i.e., adjacent uses include residences, schools, hospitals, churches, etc., rather than mostly commercial or industrial), and project-related physical improvements to the intersection/local streets could move traffic flows closer to/further from adjacent noise-sensitive land uses, thereby worsening/improving their noise exposure. Traffic noise modeling procedures involved the calculation of existing and future vehicular noise levels using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM). The model calculates the noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in TNM were based on the latest measurements of average vehicle noise rates for all vehicle classes. Traffic volumes used as data inputs, in the noise prediction model, were taken from the traffic analysis prepared for this EIR.

Construction Noise and Vibration

The Initial Study determined that this project would not result in any significant construction noise or vibration impacts because the construction would comply with the *Noise Ordinance* (see Appendix A). In addition, the Proposed Project would only consist of street improvements within the public right-of-way; no buildings would be constructed. Construction activities for the Proposed Project would be temporary and intermittent and, therefore, the Proposed Project would make a less-than-significant contribution to construction noise and vibration.

Project-Induced Traffic Noise

Table V.C-1 on p. V.C-4 identifies changes in future noise levels along project area roadways, resulting from the Proposed Project. As shown, the Proposed Project would cause a very slight reduction in local noise levels, ranging from a reduction of 0.1 dBA to 0.4 dBA. This reduction would occur when new bicycle lanes are introduced to a street, and traffic flows are thereby

relocated to portions of the street farther from the facing homes and other noise-sensitive receptors.

As discussed in Section V.A, Transportation, the implementation of the Proposed Project would not result in any new traffic volumes being added to the roadway network, so there would be no change in the intersection traffic volume under project conditions. Hence, the intersection traffic volumes would not change from Existing to Existing-plus-Project conditions. Because the Proposed Project would not alter existing traffic volumes, it would not lead to an increase in traffic-related noise. Therefore, the Proposed Project would have a less-than-significant noise impact.

CUMULATIVE EFFECTS

The construction periods of other development projects may overlap with construction activities of the Proposed Project. This EIR conservatively assumes that construction of the Proposed Project and other foreseeable development would occur simultaneously.

Assuming concurrent construction, noise from nearby construction of other approved and foreseeable projects would be added to noise from construction of the Proposed Project. However, because construction activities for the Proposed Project would be temporary and intermittent, the contribution to the cumulative context would therefore not be significant. Furthermore, all construction projects would be required to comply with the City's Noise Ordinance. In addition, construction activities from projects are expected to occur during the hours permitted under the *San Francisco Municipal Code*. Consequently, concurrent construction activity of the Proposed Project would not have a cumulatively considerable noise impact.

Groundborne vibration associated with construction of the Proposed Project, alone, would not be significant, due to the type of construction involved. Due to the localized nature of vibration impacts, cumulative groundborne vibration impacts would arise, and be contributed to, from only those projects within the immediate vicinity of the project area. Groundborne vibration would be further isolated to close proximity of the individual pieces of vibration-producing construction equipment at each construction site within the vicinity of the Proposed Project. Because the Proposed Project would not contribute to the localized groundborne vibrations associated with construction of other projects within the Proposed Project area, the vibration impact of the Proposed Project would not be cumulatively considerable.

Noise from operation of the Proposed Project would also have the potential to add to cumulative noise conditions, in combination with other foreseeable developments in the City.

The implementation of the Proposed Project would not result in any new traffic volumes being added to the roadway network, so all City intersection traffic volumes stay constant between Existing and Existing-plus-Project conditions, and, therefore, noise levels resulting from intersection traffic would remain unchanged between Existing and Existing-plus-Project conditions. Similarly, there is no change in intersection volumes between 2025 Cumulative and 2025 Cumulative plus Project Conditions. Therefore, the Proposed Project would lead to no near-term or long-term increase in traffic-related noise, and the Proposed Project would not have a cumulatively considerable noise impact.

VI. OTHER STATUTORY SECTIONS

This section summarizes findings with respect to significant and unavoidable environmental impacts, growth-inducing impacts, and cumulative impacts of the San Francisco Bicycle Plan.

A. SIGNIFICANT AND UNAVOIDABLE, AND CUMULATIVE ENVIRONMENTAL IMPACTS

SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

In accordance with Section 21083 of the California Environmental Quality Act (CEQA), and with Sections 15064 and 15065 of the State CEQA Guidelines, the purpose of this section is to identify impacts that could not be eliminated, or reduced to an insignificant level, by the mitigation measures included in Chapter V, Environmental Setting Impacts and Mitigation Measures.

Subsection V.A.3, p. V.A.3-1, discusses near-term improvement projects, and identifies significant and unavoidable impacts, namely, a potential reduction of traffic levels-of-service on some roadway segments and at some intersections, a potential slowing of transit movement in specific locations, and a potential reduction of truck loading spaces in certain locations within the project area. Subsection V.A.4, p. V.A.4-1, studies the impacts of implementation of minor improvement projects associated with the Bicycle Plan. No significant and unavoidable impacts would arise from any of these minor improvements. Subsection V.A.5, p. V.A.5-1, studies the impacts of implementation of long-term improvements under the Bicycle Plan. The following impacts and cumulative impacts were identified as being significant and unavoidable, namely, (a) a potential to increase traffic delays in some areas of the City; (b) a potential to cause a significant adverse impact to intersection levels-of-service; (c) a potential to slow transit vehicle movement in some locations; and (d) a potential to eliminate some curb space, currently used for passenger loading/unloading or commercial loading/unloading Finally, Subsection V.A.2, p. V.A.2-1, analyzes the potential impacts of policy actions taken to support the Bicycle Plan Project, now and into the future. None of the policy goals, objectives, and actions would, in themselves, have a significant effect on the physical environment. However, the predictable indirect impact of implementing the policy goals, objectives, and actions would be the implementation of the proposed improvements which are presented in the Bicycle Plan. Therefore, the implementation of policy goals, objectives, and actions could indirectly lead to the same impacts as identified for the actual improvement projects discussed in Subsections

V.A.3, V.A.4, and V.A.5, p. V.A.3-1, p. V.A.4-1, and p. V.A.5-1, respectively. These potential significant and unavoidable impacts include all of the impacts identified in the transportation impact study and summarized in Section V of this EIR, for the near-term improvements, the minor improvements, and the long-term improvements. There would be no significant and unavoidable impacts for either Air Quality or Noise.

2025 CUMULATIVE PLUS PROJECT IMPACTS

CEQA defines cumulative impacts as two or more individual impacts which, when considered together, are substantial or which compound or increase other environmental impacts. The cumulative analysis is intended to describe the "incremental impact of the project when added to other, closely related past, present or reasonably foreseeable future projects" that can result from "individually minor but collectively significant projects taking place over a period of time" (CEQA Guidelines Section 15355). The analysis of cumulative impacts is a two-phase process that first involves the determination of whether the project, together with reasonably foreseeable projects, would result in a significant impact. If there would be a significant cumulative impact from the combined effects of all such projects, the EIR must determine whether the project's incremental effect is cumulatively considerable, in which case, the project itself is deemed to have a significant cumulative effect (CEQA Guidelines Section 15130).

2025 Cumulative plus Project impacts that could occur as a result of the Proposed Project are discussed in the appropriate sections of Chapter V of this report.

In combination, the proposed improvements and actions included within the Bicycle Plan Project would generate the following significant and unavoidable impacts on the physical environment: In some cases, the project would have a significant cumulative impact, to which the projects' contribution would be cumulatively considerable and those are also noted.[1]

Traffic[2]

- The long-term potential and cumulative potential to increase traffic delay in some areas of the City, through the reduction of roadway capacity and specifically the reduction in the number of lanes available for automotive vehicle use.

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1 Please refer to the project-level analysis in Section V.A.3 (p. V.A.3-1) for additional impact details such as the existing LOS, the cumulative LOS, and LOS levels after project implementation.

2 Unless otherwise noted, the significant and unavoidable traffic and transit impacts are for PM peak hour conditions.

- The long-term potential and the cumulative potential (which considers impacts of both the Bicycle Plan Project and other development anticipated to occur around the project area) to cause a significant adverse impact to some intersection levels of service.
- The near-term potential, and the cumulative potential (which considers impacts of both the Bicycle Plan and other development anticipated to occur around the project area), to cause a significant adverse impact to intersection levels-of-service at:

Cluster 2

- 2nd Street/Bryant Street, Project 2-1 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- 2nd Street/Harrison Street, Project 2-1 Options 1 and 2, Existing plus Project and 2025 Cumulative plus Project conditions
- 2nd Street/Folsom Street, Project 2-1 Options 1 and 2, 2025 Cumulative plus Project conditions
- 2nd Street/Howard Street, Project 2-1 Options 1 and 2, 2025 Cumulative plus Project conditions
- 2nd Street/Townsend Street, Combined Projects 2-1 and 2-16 Options 1 and 2, 2025 Cumulative plus Project conditions
- 2nd Street/Townsend Street, Project 2-16 Options 1 and 2, 2025 Cumulative plus Project conditions
- 5th Street/Bryant Street, Project 2-2 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions
- 5th Street/Howard Street, Project 2-2 Option 2, 2025 Cumulative plus Project conditions
- 5th Street/Brannan Street, Project 2-2 Option 2, 2025 Cumulative plus Project conditions
- Church Street/Market Street/14th Street, Combined Projects 2-3 and 2-11 Option 1, 2025 Cumulative plus Project conditions
- Church Street/Market Street/14th Street, Project 2-11 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions

- 10th Street/Brannan Street/Potrero Avenue/Division Street, Combined Projects 2-4 and 2-6 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- 10th Street/Brannan Street/Potrero Avenue/Division Street, Project 2-6 Option 1, 2025 Cumulative plus Project conditions
- Potrero Avenue/16th Street, Project 2-4 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions
- 11th Street/Bryant Street/Division Street, Project 2-6 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- Fremont Street/Howard Street, Projects 2-7 and 2-9, Existing plus Project and 2025 Cumulative plus Project conditions
- Fremont Street/Howard Street, Project 2-9, Existing plus Project and 2025 Cumulative plus Project conditions
- 7th Street/Townsend Street, Project 2-16 Options 1 and 2, 2025 Cumulative plus Project conditions

Cluster 3

- Masonic Avenue/Fell Street, Combined Projects 3-1 and 3-2 Option 1, 2025 Cumulative plus Project conditions
- Masonic Avenue/Fell Street, Project 3-2 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- Masonic Avenue/Fell Street, Project 3-2 Option 2, 2025 Cumulative plus Project conditions
- Masonic Avenue/Turk Street, Project 3-2 Options 1 and 2, in the AM peak hour, 2025 Cumulative plus Project conditions
- Masonic Avenue/Turk Street, Project 3-2 Option 1, in the PM peak hour, 2025 Cumulative plus Project conditions
- Masonic Avenue/Fulton Street, Project 3-2 Options 1 and 2, in the AM peak hour, 2025 Cumulative plus Project conditions
- Masonic Avenue/Geary Boulevard, Project 3-2 Option 1, 2025 Cumulative plus Project conditions

Cluster 5

- Bayshore Boulevard/Jerrold Avenue/U.S. 101 Off-ramp, Project 5-4 Options 1, in the AM and PM peak hour, Existing plus Project and 2025 Cumulative plus Project conditions
- Evans Avenue/Cesar Chavez Street, Project 5-5 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- Mission Street/Cesar Chavez Street, Project 5-6 Options 1 and 2, in the AM and PM peak hour, Existing plus Project and 2025 Cumulative plus Project conditions
- Guerrero Street/Cesar Chavez Street, Project 5-6 Options 1 and 2, Existing plus Project and 2025 Cumulative plus Project conditions
- South Van Ness Avenue/Cesar Chavez Street, Project 5-6 Options 1 and 2, Existing plus Project and 2025 Cumulative plus Project conditions
- Bryant Street/Cesar Chavez Street, Project 5-6 Options 1 and 2, Existing plus Project and 2025 Cumulative plus Project conditions

Cluster 6

- Burnett Avenue/Clipper Street/Portola Drive, Combined Projects 6-2 and 6-5 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- Burnett Avenue/Clipper Street/Portola Drive, Project 6-2 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- Burnett Avenue/Clipper Street/Portola Drive, Project 6-5 Option 1, 2025 Cumulative plus Project conditions
- Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive, Combined Projects 6-5 and 6-6 Option 1, in the AM and PM peak hour, Existing plus Project and 2025 Cumulative plus Project plus Project conditions
- Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive, Project 6-5 Option 1, in the AM and PM peak hour, Existing plus Project and 2025 Cumulative plus Project plus Project conditions
- Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive, Project 6-6 Option 1, in the AM and PM peak hour, Existing plus Project and 2025 Cumulative plus Project plus Project conditions

- Fowler Street/Portola Avenue, Project 6-6 Option 1, 2025 Cumulative plus Project conditions

Transit

- The long-term potential to slow some transit movement in some locations.
- The near-term potential and cumulative potential to slow some transit movement in some locations:

Cluster 2

- Muni bus line 10, Combined Projects 2-1 and 2-16 Options 1 and 2, Existing plus Project and 2025 Cumulative plus Project conditions
- Muni bus line 10, Project 2-1 Options 1 and 2, Existing plus Project and 2025 Cumulative plus Project conditions
- Muni bus line 9, Combined Projects 2-4 and 2-6 Option 2, 2025 Cumulative plus Project conditions
- Muni bus line 9, Project 2-4 Option 2, 2025 Cumulative plus Project conditions
- Muni bus line 30, Project 2-16 Options 1 and 2, Existing plus Project and 2025 Cumulative plus Project plus Project conditions, near the intersection of 4th Street/Townsend Streets
- Muni bus line 45, Project 2-16 Options 1 and 2, Existing plus Project and 2025 Cumulative plus Project plus Project conditions, near the intersection of 4th Street/Townsend Street
- SamTrans bus line 292, Combined Projects 2-4 and 2-6 Option 2, 2025 Cumulative plus Project conditions
- SamTrans bus line 292, Project 2-4 Option 2, 2025 Cumulative plus Project conditions

Cluster 3

- Muni bus line 43, Combined Projects 3-1 and 3-2 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- Muni bus line 43, Project 3-2 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions

Cluster 5

- Muni bus line 12, Project 5-6 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- Muni bus line 27, Project 5-6 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions

Cluster 6

- Muni bus line 48, Projects 6-2, 6-5, and 6-6 Option 1, 2025 Cumulative plus Project conditions
- Muni bus line 52, Projects 6-2, 6-5, and 6-6 Option 1, 2025 Cumulative plus Project conditions

Loading

- The long-term potential to eliminate some curb space currently used for passenger loading/unloading or commercial freight loading/unloading in as yet undetermined locations.
- The near-term potential and cumulative potential to eliminate some curb space currently used for passenger loading/unloading or commercial freight loading/unloading.

Cluster 1

- Along North Point Street east of Columbus Avenue, Project 1-3, Existing plus Project and 2025 Cumulative plus

Cluster 2

- Along 2nd Street between Market and Bryant Streets, Project 2-1 Options 1 and 2, Existing plus Project and 2025 Cumulative plus Project conditions for passenger loading/unloading
- Along 2nd Street between Market and Bryant Streets, Project 2-1 Options 1 and 2, Existing plus Project and 2025 Cumulative plus Project conditions for commercial freight loading/unloading
- Along north side of Market Street near Noe Street, Project 2-11 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions

Cluster 5

- Along Bayshore Boulevard between Cesar Chavez and Industrial Street, Project 5-4 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions
- Along the west side of San Bruno Avenue between Paul Avenue and Silver Avenue, Project 5-13 Options 1 and 2, Existing plus Project and 2025 Cumulative plus Project conditions

B. GROWTH-INDUCING IMPACTS

Implementation of the proposed project would not induce growth in San Francisco, nearby cities, or the San Francisco Bay Area region. In general, a project would be considered growth-inducing if its implementation would result in substantial population increases and/or new development. The Proposed Project consists of the adoption and implementation of policies and improvements to the existing bicycle route network located within the public right-of-way and on some park land. These improvements would not substantially alter existing development patterns in San Francisco, or necessitate or induce the extension of municipal infrastructure.

The San Francisco Bicycle Plan is intended to make bicycling a part of daily life in San Francisco. It is possible that the existence of bicycle facilities may encourage cyclists from outside the area to come to San Francisco. It is not expected that the type or extent of facilities developed within the Proposed Project would introduce growth beyond what has been analyzed and planned for by the City of San Francisco.

VII. ALTERNATIVES

As stated in Section 15126.6 (a) of the *CEQA Guidelines*, "an Environmental Impact Report (EIR) shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

This section identifies potentially feasible alternatives to the San Francisco Bicycle Plan Project (Proposed Project), and discusses potential environmental impacts associated with these alternatives. Project decision makers could approve an alternative instead of the Proposed Project, if that alternative would substantially reduce or eliminate significant impacts of the project and is determined feasible. The determination of feasibility would be made by project decision makers on the basis of substantial evidence in the record, which shall include, but not be limited to, information presented in the EIR and in comments received on the Draft EIR.

Unlike most EIRs, this EIR does not contain the traditional chapter analyzing alternatives to the "Proposed Project". This is because this EIR does not analyze a preferred project. Instead, for many of the near-term improvements, this EIR evaluates two options as well as a future No Project scenario (i.e., year 2025 conditions, assuming that none of the bicycle facility options is adopted), at an equal level of detail as EIR alternatives. These options, and the analysis of their potential environmental impacts, are presented throughout this document.

Because the Bicycle Plan Project includes both project-level and program-level elements, this discussion of Alternatives focuses on a comparison of two project-level alternatives, as well as a comparison of two program-level alternatives, with a closing discussion on the program-level policy actions and their role in the selection of project alternatives. Information used in this analysis was taken from the discussion in the preceding Chapter V of this document. While this Alternatives Section reviews two Alternative scenarios, the Bicycle Plan Project and this EIR analysis allow for a multitude of Alternatives. The project-level and program-level alternatives can be paired up with each other in a variety of combinations. In addition, other alternatives would result by combining different near-term improvements options as well as different optional designs within the near-term improvements that offer multiple segment options. A variety of project options is associated with the Project-Level Impacts Alternatives as described below.

All of these alternatives are contrasted with a No Project alternative, which assumes that the Bicycle Plan would not be approved at this time and none of the near-term improvements, minor improvements or long-term improvements would be implemented. The No Project alternative was developed using data on existing conditions on the City's roadways, and on data from a model of cumulative Year 2025 conditions without the Bicycle Plan. This information is also provided in the analysis in Chapter V of this EIR.

A. METHOD OF ALTERNATIVES SELECTION

Additional alternatives were considered and rejected during development of the updated Bicycle Plan. The previous draft of the Bicycle Plan was divided into three documents, a "Policy Framework," a "Network Improvement Document," and implementation phasing for the proposed near-term bicycle route network improvements. These documents were completed in 2005. The previous draft policy document was adopted, but was subsequently invalidated by the San Francisco Superior Court on November 7, 2006. These three 2005 documents have been replaced by the current draft Bicycle Plan (2008).[1] Some ideas proposed in the 2005 previous draft Bicycle Plan and Network Improvement Document were ultimately rejected, and are not a part of the current Bicycle Plan Project. The 2005 Network Improvement Document (NID) no longer exists. Instead, the Bicycle Plan (2008) includes elements of the 2005 NID which have been further refined and are included as near-term and minor improvements in this current Bicycle Plan Project. Other proposals from the 2005 NID were retained as long-term improvements and also have been incorporated into the Bicycle Plan; part of the scope of the current Bicycle Plan Project includes the further definition and development of these long-term improvements.

NO PROJECT

Should this Bicycle Plan Project not be implemented, transportation network conditions would remain as they currently are throughout the City. In this scenario, bicycle pathways would not be built, interconnected, or maintained beyond current levels; new bicycle safety programs would not be implemented above current levels; and other changes proposed in this Bicycle Plan would not be approved or implemented without further action on the part of the City. Lane striping, transit service levels, and parking would remain as is; lane striping would remain as-is unless changes are proposed as part of a separate project. Intersection delays and levels of service would also be unaffected. Furthermore, the City would not benefit from any potential

[1] These documents will remain in draft until this environmental review has been completed and the documents are approved by the San Francisco Municipal Transportation Agency Board of Directors.

air quality benefits that could result from the Bicycle Plan's overall goal of making bicycling safer and an integral part of daily life in San Francisco by potentially allowing residents to commute and complete other travel by bicycle alone, or bicycle and other alternative modes of transportation, rather than by personal vehicle. In addition, the City would not benefit from a potential decrease in congestion-related air pollution as people shift to alternative modes of transportation from personal vehicles.

It is important to note that this No Project scenario would not guarantee the maintenance of roadway capacities and transit service at their current levels. Under this No Project scenario, vehicle use is expected to continue to develop in accord with the rate and patterns established in recent years. With San Francisco's continued growth as an employment center, and population growth over time, new vehicles would be added to the City's roadways. If alternative commute modes are not enhanced to help serve the City's transportation needs, or a plan for such alternative mode is not undertaken (bicycling, or other new transit service), these future trips would continue to be distributed among personal vehicles, bicycles, pedestrian travel, and transit in much the same proportions as is currently the case. This No Project discussion is based on the assumption that the Bicycle Plan would not be adopted, and no other new modes of transportation would be introduced to change the mode split between personal vehicle drivers and other travelers. By the year 2025 for the No Project Alternative, city intersection levels-of-service (LOS) would worsen at 45 of the 61 intersections studied for this Bicycle Plan Project analysis, and only 27 of the total 61 intersections studied would remain at LOS D or better.

The program-level impacts would be eliminated under this No Project Alternative, except for the general impacts discussed above. If the Bicycle Plan Project were not implemented, there would be none of the significant and unavoidable impacts to loading, transit operations, or traffic intersection LOS associated with the Plan, aside from the indirect impact of increased traffic on San Francisco roadways, as discussed above.

PROJECT-LEVEL IMPACTS AND ALTERNATIVES

As noted above, the two project-level alternatives, A and B, are equivalent to the Option 2 and Option 1 project scenarios, respectively. However, for some of the near-term improvements there is only one option which would be utilized in both alternatives. In some cases, one of the two options may improve bicycle network functioning and safety to a greater extent than the other option. Notwithstanding this fact, the Bicycle Plan Project goals would be accomplished under either of the project-level alternatives presented below. A combination of some Option 1

projects and some Option 2 projects (with different options selected for different clusters) could also be adopted by the decision-makers and would also accomplish the Bicycle Plan Project goals.

As described in Chapter V of this EIR, the two project options would have similar impacts, and would generally vary only by degree. Both Chapter V, Environmental Setting, Impacts and Mitigation Measures, and Chapter VI.A, Significant and Unavoidable Impacts, identify significant adverse impacts for the project options as well as those for which no feasible mitigation has been determined. The individual near-term projects would have both significant and unavoidable impacts, as well as significant impacts that could be mitigated to a less-than-significant level through the imposition of mitigation measures. The areas in which the greatest impacts would occur, under both alternatives, are the South of Market area (including the intersections of Bryant Street, Howard Street, and Townsend Street with both 2nd Street and 5th Street) and the Mission/Glen Park/Excelsior Area (including the intersection of Cesar Chavez Street with Evans Street, Mission Street, Guerrero Street, and South Van Ness Avenue). Some impacts would also occur in the Civic Center/Western Addition Area and the Twin Peaks Area. These are discussed below, for the two alternatives considered.

The Bicycle Plan Project's program-level impacts would be the same, whichever project-level options are selected. These program-level impacts are, therefore, discussed separately, immediately following the presentation of the Project-Level Impacts Alternative A and Project-Level Impacts Alternative B, below. These program-level impacts would apply to whichever Alternative the City may decide to select.

Project-Level Impacts Alternative A

The Project-Level Impacts Alternative A would include adoption of the Bicycle Plan, but would assume that the Bicycle Plan options, considered within the text of this document, would be selected on the basis of the number of potential impacts the given option could have on the physical environment in the area of the improvements (identified as "Cluster Areas" in this document). In reviewing this alternative, the reader should note that the Bicycle Plan could be successfully adopted and implemented in accord with this alternative. The number of environmental impacts is not necessarily indicative of the project alternative's full effect. A project alternative could, potentially, have fewer identified impacts than another alternative, but these impacts could have a greater negative effect on City residents, or could contradict City programs and goals to a greater extent, than a scenario with apparently more impacts.

This alternative looks at near-term improvement projects Option 2 (or Option 1 if there is only one option) as these produce fewer identified significant environmental impacts. However, this alternative does not attempt to define the value or importance of each impact, or to rank the impacts in order of absolute importance to local residents or the City of San Francisco. Under this Project-Level Impact Alternative A, significant and unavoidable project impacts would occur in the following areas:

Traffic[2]

- The near-term potential and the cumulative potential (which considers impacts of both the Bicycle Plan and other development anticipated to occur around the project area), to cause a significant adverse impact to intersection levels of service at:

  Cluster 2

  - 2nd Street/Harrison Street, Project 2-1 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions
  - 2nd Street/Folsom Street, Project 2-1 Option 2, 2025 Cumulative plus Project conditions
  - 2nd Street/Howard Street, Project 2-1 Option 2, 2025 Cumulative plus Project conditions
  - 2nd Street/Townsend Street, Combined Projects 2-1 and 2-16 Option 2, 2025 Cumulative plus Project conditions
  - 2nd Street/Townsend Street, Project 2-16 Option 2, 2025 Cumulative plus Project conditions
  - 5th Street/Bryant Street, Project 2-2 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions
  - 5th Street/Howard Street, Project 2-2 Option 2, 2025 Cumulative plus Project conditions
  - 5th Street/Brannan Street, Project 2-2 Option 2, 2025 Cumulative plus Project conditions
  - Potrero Avenue/16th Street, Project 2-4 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions

[2] Unless otherwise noted, the significant and unavoidable traffic and transit impacts are for PM peak hour conditions.

- Fremont Street/Howard Street, Projects 2-7 and 2-9, Existing plus Project and 2025 Cumulative plus Project conditions
- Fremont Street/Howard Street, Project 2-9, Existing plus Project and 2025 Cumulative plus Project conditions
- 7th Street/Townsend Street, Project 2-16 Option 2, 2025 Cumulative plus Project conditions

Cluster 3

- Masonic Avenue/Fell Street, Project 3-2 Option 2, 2025 Cumulative plus Project conditions
- Masonic Avenue/Turk Street, Project 3-2 Option 2, in the AM peak hour, 2025 Cumulative plus Project conditions
- Masonic Avenue/Fulton Street, Project 3-2 Option 2, in the AM peak hour, 2025 Cumulative plus Project conditions

Cluster 5

- Mission Street/Cesar Chavez Street, Project 5-6 Option 2, in the AM and PM peak hour, Existing plus Project and 2025 Cumulative plus Project conditions
- Guerrero Street/Cesar Chavez Street, Project 5-6 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions
- South Van Ness Avenue/Cesar Chavez Street, Project 5-6 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions
- Bryant Street/Cesar Chavez Street, Project 5-6 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions

Transit

- The near-term potential and cumulative potential to slow some transit movement in some locations:

Cluster 2

- Muni bus line 10, Combined Projects 2-1 and 2-16 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions
- Muni bus line 10, Project 2-1 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions

- Muni bus line 9, Combined Projects 2-4 and 2-6 Option 2, 2025 Cumulative plus Project conditions
- Muni bus line 9, Project 2-4 Option 2, 2025 Cumulative plus Project conditions
- Muni bus line 30, Project 2-16 Option 2, Existing plus Project and 2025 Cumulative plus Project plus Project conditions, near the intersection of 4th Street/Townsend Streets
- Muni bus line 45, Project 2-16 Option 2, Existing plus Project and 2025 Cumulative plus Project plus Project conditions, near the intersection of 4th Street/Townsend Street
- SamTrans bus line 292, Combined Projects 2-4 and 2-6 Option 2, 2025 Cumulative plus Project conditions
- SamTrans bus line 292, Project 2-4 Option 2, 2025 Cumulative plus Project conditions

Loading

- The near-term potential and cumulative potential to eliminate some curb space currently used for passenger loading/unloading or commercial freight loading/unloading.

Cluster 1

- Along North Point Street east of Columbus Avenue, Project 1-3, Existing plus Project and 2025 Cumulative plus

Cluster 2

- Along 2nd Street between Market and Bryant Streets, Project 2-1 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions for passenger loading/unloading
- Along 2nd Street between Market and Bryant Streets, Project 2-1 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions for commercial freight loading/unloading

Cluster 5

- Along Bayshore Boulevard between Cesar Chavez and Industrial Street, Project 5-4 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions
- Along the west side of San Bruno Avenue between Paul Avenue and Silver Avenue, Project 5-13 Option 2, Existing plus Project and 2025 Cumulative plus Project conditions

Project-Level Impacts Alternative B

In choosing the near-term improvements in Alternative B, the Bicycle Plan could be adopted in such a way as to support improvements that may result in more transportation-related impacts on the physical environment than Alternative A. As noted above, the additional impacts related to a project do not necessarily mean that the impacts would result in a greater magnitude of effect on the quality of life or overall transportation network functioning in the City of San Francisco. The Alternative B would produce significant and unavoidable project-level impacts in the areas listed below:

Traffic[3]

- The near-term potential and the cumulative potential (which considers impacts of both the Bicycle Plan and other development anticipated to occur around the project area), to cause a significant adverse impact to intersection levels of service at:

  Cluster 2

  - 2nd Street/Bryant Street, Project 2-1 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
  - 2nd Street/Harrison Street, Project 2-1 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
  - 2nd Street/Folsom Street, Project 2-1 Option 1, 2025 Cumulative plus Project conditions
  - 2nd Street/Howard Street, Project 2-1 Option 1, 2025 Cumulative plus Project conditions
  - 2nd Street/Townsend Street, Combined Projects 2-1 and 2-16 Option 1, 2025 Cumulative plus Project conditions
  - 2nd Street/Townsend Street, Project 2-16 Option 1, 2025 Cumulative plus Project conditions
  - Church Street/Market Street/14th Street, Combined Projects 2-3 and 2-11 Option 1, 2025 Cumulative plus Project conditions
  - Church Street/Market Street/14th Street, Project 2-11 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions

[3] Unless otherwise noted, the significant and unavoidable traffic and transit impacts are for PM peak hour conditions.

- 10th Street/Brannan Street/Potrero Avenue/Division Street, Combined Projects 2-4 and 2-6 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- 10th Street/Brannan Street/Potrero Avenue/Division Street, Project 2-6 Option 1, 2025 Cumulative plus Project conditions
- 11th Street/Bryant Street/Division Street, Project 2-6 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- Fremont Street/Howard Street, Projects 2-7 and 2-9, Existing plus Project and 2025 Cumulative plus Project conditions
- Fremont Street/Howard Street, Project 2-9, Existing plus Project and 2025 Cumulative plus Project conditions
- 7th Street/Townsend Street, Project 2-16 Option 1, 2025 Cumulative plus Project conditions

Cluster 3

- Masonic Avenue/Fell Street, Combined Projects 3-1 and 3-2 Option 1, 2025 Cumulative plus Project conditions
- Masonic Avenue/Fell Street, Project 3-2 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- Masonic Avenue/Turk Street, Project 3-2 Option 1, in the AM peak hour, 2025 Cumulative plus Project conditions
- Masonic Avenue/Turk Street, Project 3-2 Option 1, in the PM peak hour, 2025 Cumulative plus Project conditions
- Masonic Avenue/Fulton Street, Project 3-2 Option 1, in the AM peak hour, 2025 Cumulative plus Project conditions
- Masonic Avenue/Geary Boulevard, Project 3-2 Option 1, 2025 Cumulative plus Project conditions

Cluster 5

- Bayshore Boulevard/Jerrold Avenue/U.S. 101 Off-ramp, Project 5-4 Option 1, in the AM and PM peak hour, Existing plus Project and 2025 Cumulative plus Project conditions
- Evans Avenue/Cesar Chavez Street, Project 5-5 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions

- Mission Street/Cesar Chavez Street, Project 5-6 Option 1, in the AM and PM peak hour, Existing plus Project and 2025 Cumulative plus Project conditions
- Guerrero Street/Cesar Chavez Street, Project 5-6 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- South Van Ness Avenue/Cesar Chavez Street, Project 5-6 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- Bryant Street/Cesar Chavez Street, Project 5-6 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions

Cluster 6

- Burnett Avenue/Clipper Street/Portola Drive, Combined Projects 6-2 and 6-5 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- Burnett Avenue/Clipper Street/Portola Drive, Project 6-2 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
- Burnett Avenue/Clipper Street/Portola Drive, Project 6-5 Option 1, 2025 Cumulative plus Project conditions
- Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive, Combined Projects 6-5 and 6-6 Option 1, in the AM and PM peak hour, Existing plus Project and 2025 Cumulative plus Project plus Project conditions
- Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive, Project 6-5 Option 1, in the AM and PM peak hour, Existing plus Project and 2025 Cumulative plus Project plus Project conditions
- Woodside Avenue/O'Shaughnessy Boulevard/Portola Drive, Project 6-6 Option 1, in the AM and PM peak hour, Existing plus Project and 2025 Cumulative plus Project plus Project conditions
- Fowler Street/Portola Avenue, Project 6-6 Option 1, 2025 Cumulative plus Project conditions

Transit

- The near-term potential and cumulative potential to slow some transit movement in some locations:

  Cluster 2

  - Muni bus line 10, Combined Projects 2-1 and 2-16 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
  - Muni bus line 10, Project 2-1 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
  - Muni bus line 30, Project 2-16 Option 1, Existing plus Project and 2025 Cumulative plus Project plus Project conditions, near the intersection of 4th Street/Townsend Streets
  - Muni bus line 45, Project 2-16 Option 1, Existing plus Project and 2025 Cumulative plus Project plus Project conditions, near the intersection of 4th Street/Townsend Street

  Cluster 3

  - Muni bus line 43, Combined Projects 3-1 and 3-2 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
  - Muni bus line 43, Project 3-2 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions

  Cluster 5

  - Muni bus line 12, Project 5-6 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions
  - Muni bus line 27, Project 5-6 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions

  Cluster 6

  - Muni bus line 48, Projects 6-2, 6-5, and 6-6 Option 1, 2025 Cumulative plus Project conditions
  - Muni bus line 52, Projects 6-2, 6-5, and 6-6 Option 1, 2025 Cumulative plus Project conditions

Loading

- The near-term potential and cumulative potential to eliminate some curb space currently used for passenger loading/unloading or commercial freight loading/unloading.

  Cluster 1

  - Along North Point Street east of Columbus Avenue, Project 1-3, Existing plus Project and 2025 Cumulative plus

  Cluster 2

  - Along 2nd Street between Market and Bryant Streets, Project 2-1 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions for passenger loading/unloading
  - Along 2nd Street between Market and Bryant Streets, Project 2-1 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions for commercial freight loading/unloading
  - Along north side of Market Street near Noe Street, Project 2-11 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions

  Cluster 5

  - Along the west side of San Bruno Avenue between Paul Avenue and Silver Avenue, Project 5-13 Option 1, Existing plus Project and 2025 Cumulative plus Project conditions.

PROGRAM-LEVEL IMPACTS AND ALTERNATIVES

Program-Level Improvements Alternative A

The Bicycle Plan Project would be accomplished by adoption of Program-Level Improvement Alternative A, which represents the adoption of the full set of program-level actions, namely all minor improvement projects and all long-term improvement projects. The Bicycle Plan Project would be only partially accomplished by adoption of the Program-Level Alternative Improvement B (Sharrows), which would be limited to the installation of sharrows on street segments identified for long-term improvement, instead of other bicycle facilities. Under Program-Level Alternative B (Sharrows), some of the City's goals for improving bicycling safety and facilities, and supporting and improving bicycle circulation around the City would not be met.

The program-level impacts, for implementation of the complete minor improvements and long-term improvements of the Bicycle Plan, would include significant and unavoidable impacts to intersection LOS produced by the implementation of long-term improvements. Reduction in the number of travel lanes could subject vehicles, including transit using the affected roadways, to increased congestion and delays. Increased delays could result in drivers diverting to other potentially less convenient routes to access their destinations. The actual impact of a long-term improvement on roadway capacity and traffic operations would depend on the length of the affected roadway segment, the number of travel lanes that would be available for vehicular flow, whether intersections are signalized or STOP-sign controlled, and the available green time for each movement at signalized intersections. At some locations, implementation of improvements would result in significant cumulative impacts (i.e., cause LOS operating conditions to change from LOS D or better to LOS E or LOS F, or from LOS E to LOS F), while at other locations that would operate at LOS E or F without the improvements. The improvements may be determined to represent a significant contribution to the cumulative impacts. Implementation of mitigation measures could reduce the cumulative impacts of the long-term improvements to a less-than-significant level. However, in some instances where intersections remain at LOS E or F conditions even with mitigation, mitigation is incompatible with the proposed improvement, or roadway geometry precludes implementation of mitigation, impacts may not be reduced to a less-than-significant level. Therefore, the long-term improvements would result in significant cumulative impacts, and traffic impacts may be considered potentially significant and unavoidable.

Transit operations would also be substantially affected by the intersection operating conditions, under cumulative project conditions (i.e., those conditions that include this project as well as other projects in a given area). Due to background traffic volume increases, numerous intersections within San Francisco are projected to operate poorly under future year 2025 cumulative conditions. If the implementation of long-term improvements results in an increase in transit delay equal to or greater than six minutes, in both directions, this would constitute a significant operational impact on transit routes for which the headway is greater than six minutes. For transit routes where the headway is less than six minutes, a significant impact would occur if the transit delay would be greater than or equal to the headway. Implementation of mitigation measures could reduce the long-term improvement's impacts to a less-than-significant level. However, in some cases implementation of an effective mitigation measure would be incompatible with the roadway geometry in a given location; in other cases, the proposed mitigation would be incompatible with the proposed improvement that produced the impacts in the first place. In both these cases, transit delays may not be reduced to a less-

than-significant level through mitigation. Therefore, the long-term improvements would result in significant cumulative impacts on transit operations, and transit impacts would be considered potentially significant and unavoidable.

Finally, there could be significant and unavoidable impacts to loading. In light of the projected cumulative growth in commercial activities within San Francisco, there could be increased commercial vehicle loading/unloading activities between now and 2025. Implementation of the long-term improvements to accommodate bicycle lanes could result in the elimination of curb space currently dedicated to yellow commercial vehicle freight loading zones, or active passenger loading/unloading zones. The impact of a loss of available loading zones would depend on the number of spaces that would be eliminated, the location of the spaces, and the availability of alternate accommodations for loading/unloading activities. However, in situations where available loading zones are removed and the loading demand cannot be reasonably accommodated within existing adjacent locations, and roadway right-of-way is constrained, there may be significant cumulative impacts to loading. Although, implementation of mitigation measures could reduce the long-term improvement's impacts to a less-than-significant level, impacts may not be reduced to a less-than-significant level in some locations, including those with a high volume of loading demand, and at locations where mitigation is incompatible with the proposed improvement or where roadway geometry precludes implementation of mitigation. Therefore, the long-term improvements would result in significant cumulative impacts, and loading impacts would be considered to be significant and unavoidable.

Program-Level Improvements Alternative B (Sharrows)

An alternative to the Full Program-Level Improvements Alternative A would limit the program-level actions to activities involved in locating, placing, and maintaining sharrows to the streets or areas identified for long-term improvements to complete the bicycle route network. This Alternative would have no significant and unavoidable impacts.

B. SUMMARY OF ALTERNATIVES

This EIR identifies several significant and unavoidable project-level and program-level impacts relative to reductions in traffic intersection LOS, transit delays, and loading zone impacts. Specific program-level impacts have not been identified for the No Project Alternative, although substantial loading zone, transit, and LOS impacts would be expected to occur under the No Project Alternative, as a result of the anticipated increase in cars on City streets by the year 2025. In the No Project Alternative, these impacts would not be offset by any of the potential benefits

of the Bicycle Plan and a related replacement of personal vehicle use by bicycle and combined bicycle-transit travel modes. Implementation of Project-Level Impacts Alternative B would lead to all of the program-level impacts identified above, namely, loading, traffic LOS, and transit delay impacts, and would also result in delays to eight bus lines, interference with a loading zone in four areas, and a deterioration in intersection LOS at 23 intersections across the City. By comparison, implementation of the Project-Level Impacts Alternative A would lead to the aforementioned program-level impacts as well as causing delays to five bus lines, interference with loading zones in four areas, and a deterioration in intersection LOS at 17 intersections.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As required by *CEQA Guidelines* Section 15126.6(c)(2), the "Project-Level Impacts Alternative A" is identified as the Environmentally Superior Alternative, as far as project-level impacts are concerned. The "Program-Level Improvements Alternative B" is identified as the Environmentally Superior Alternative, as far as program-level impacts are concerned.

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